Information systems for environmental scanning: A comparative study of utilization in the strategic planning process of British and Canadian universities.

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Information Systems for Environmental Scanning - A Comparative Study of Utilization in the Strategic Planning Process of British and Canadian Universities

Submitted by John Kurt Pliniussen
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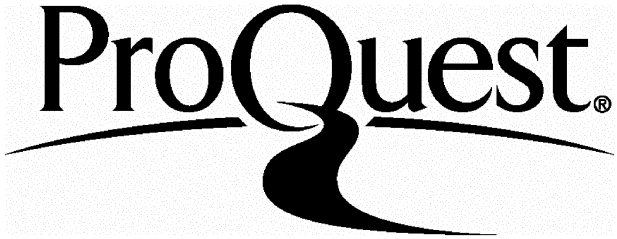

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Abstract

This dissertation identifies and compares the experiences, opinions, and information systems of the senior administrative teams at the Universities of Bath and Birmingham, in England, and at Dalhousie and Mount Saint Vincent , in Canada, relative to those environmental issues and forces influencing their respective institutions - and consequent planning processes.

Through the use of an exploratory cross-national comparative case-oriented research framework, four instruments were pre-tested and utilized, following basic triangulation methodology, in order to address the aforementioned issues.

The results of the research indicated there was much convergence of the research findings, both within and across the two countries, and that while all administrative teams were starting to utilize strategic planning procesess, each was at a different stage of integrating and formalizing this process throughout their respective universities.

Finally, implications of the research findings were developed and recommendations posited with which the respective administrative teams could augment both the information systems and the strategic planning processes as detailed in this project.

"Out of the strain of the doing,
into the peace of the done."

Julia Woodruff
`Gone'

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Finally, I wish to acknowledge all of the writers and scholars referred to in this dissertation without whose research undertakings this effort, and this researcher, would never had developed to the extent they did.

CHAPTER ONE

Introduction

"... it is important to emphasize that although in the 1970s, and most especially the 1980s, the modern university seems to have lost its apparently inexorable momentum of the 1960s, the international experience of retrenchment is a complex phenomenon with internal and external causes that are by no means coincident and with political, social, cultural and intellectual dimensions that make it possible to try to reduce this complexity to any simple message. The message is as much that the future for higher education is ambiguous as that it is bleak. The conclusion is not so much that the 1990s will be worse than the 1960s, but that they will be very different."

Peter Scott
'The Crisis of the University'
1984

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Prologue

Throughout the last eight centuries, but primarily during the last two, universities have had a profound effect not only on their students, staff, officers, trustees and members, but on society as a whole. And these include an indeterminant range of cultural, economical, social, philosophical, psychological and intellectual effects.

The histories of both Britain and Canada have been irreversibly shaped (and continue to be shaped) by men and women who have been conditioned and climatized, at some stage of their lives, by this university environment. The services a university provides, therefore, to its many diverse local, regional, national and international publics, is invaluable.

In order to ensure that these universities continue to progress in their delivery and development of these tangible (and intangible) services, amidst the myriad pressures and uncertainties currently confronting them, the study related to the management of universities becomes equally invaluable--and noble.

Ultimately, it is the pursuit, acquisition and utilization of new ideas, for new opportunities, that provides the university with its distinct competencies. Consequently, new information, from which new ideas and opportunities spawn, concerning

the innumerous influencing variables found within a university's environment, is essential.

This research undertaking is dedicated to the pursuit of new information for the immediate utilization and benefit of senior university management; and ultimately, and reciprocally, for the benefit of us all.

> "To deny a practical significance to strategic institutional planning is to invite our own destruction as environment oriented organizations of value to our societies through our collective individual independence of exploration, instruction and advice."
>
> Raymond Thomas
> 'Corporate Strategic Planning
> in a University'
> 1980

(A) Purpose

The primary purpose of this dissertation is to assist in filling the gap in the cross-national comparative research base concerning the process of strategic planning as applied to the university sector.

Specifically, it focuses on the area of environmental scanning and external information network identification and development as a critical part of this strategic planning process.

To this end, it identifies and compares the experiences, opinions and information networks of senior university managers, in Britain and Canada, relative to those environmental factors identified as either influencing, or partially influencing, their respective universities.

From this research data, levels and patterns of environmental scanning are developed, compared and analyzed. Lastly, implications of the study and potential areas for additional research are developed.

(B) Objectives/Questions

As with most fundamental research, this project was undertaken in order to achieve specific objectives--by answering questions concerning the strategic management of universities in both Britain and Canada.

The three primary objectives were:

1. to expand (and utilize) the empirical research base relating to strategic planning tools for identifying an organization's environmental forces and issues;
2. to provide a means with which to transfer organization-environment concepts to senior university managers, and,
3. to identify areas of strengths and weaknesses relative to the senior university managers' external information networks used to monitor the external forces and issues.

The primary question, with its subsidiary parts, guiding this research project towards the achievement of these objectives can be stated as:

To what extent do senior university managers, in Britain and Canada, share similar opinions regarding:

a) the environmental forces and issues that affect universities;

b) the environmental forces and issues that are more critical for their respective universities;

c) the adequacy, sources and types of information available concerning these forces and issues;

d) the level of flexibility that their universities have to respond to environmental forces and issues;

e) the level of stability of their universities' environments;

f) the extent of interaction with governmental forces;

g) the extent of external versus internal orientation of their management duties, and,

h) the level of risk associated with the universities' present strategies relative to the environmental forces and issues.

Descriptive Hypothesis/Propositions

a) environmental forces and issues affect universities in Britain and Canada;

b) certain environmental forces and issues will be more critical to the respective universities in Britain and Canada;

c) types and sources of information concerning these environmental forces and issues are adequate;

d) universities in Britain and Canada are flexible in relation to responding to environmental issues and forces;

e) the universities' environments in Britain and Canada are not stable;

f) senior university administrators in Britain and Canada have a high level of interaction with their respective governments' departments;

g) senior university managers, in Britain and Canada, are primarily internal (versus external) in relation to their duties;

h) senior university managers, within the same university, share a consensus relative to the forces and issues effecting their universities and the level of risk associated with their universities' present policies in dealing with these forces and issues.

(C) Research Rationale

The study of organizational management via strategic planning has been traced back to 300 B.C.[1] The application of the strategic planning process has been explored and utilized in government[2], military[3], industrial[4], and more recently, university organizations[5].

These studies have also included defining the concept of strategic planning[6]; examining the benefits of the process[7]; tracing the development of the concept[8]; modelling the formulation, implementation and management stages of the process[9], and developing management techniques to enhance the utilization and effectiveness of the process[10].

One particular area that is beginning to receive equal attention in both profit and non-profit sectors, relates to environmental management--the organization-environment relationships. Zeithmal and Zeithmal provide a succinct statement regarding the background and reconceptualization of this relationship:

> "By the late 1970s, management theorists generally adopted the open systems perspective of organizations and agreed on the central importance of the external environment for management .... Traditional organization theory tended to view the environment as a deterministic influence to which organizations adapt their strategies, structures and processes .... Environmental attributes such as turbulence, hostility, diversity, technical complexity, and restrictiveness ... were thought to determine both organizational and performance variables. In summary, the traditional environmental determinism perspective conceptualized the environment as a causal variable: Organizational performance

> was dependent upon the efficient and effective adaptation of organizational characteristics to environmental contingencies.
>
> In contrast, recent theory and research in management and social sciences has reconceptualized the relationship between the organization and the external environment .... Based on observations research, and extensions of the traditions found in the business policy and corporate social responsibility literature, these authors challenge the position that organizations are or need to be passive-reactive entities with respect to the external environment. Instead, they argue that organizations can and do implement a variety of strategies designed to modify existing environmental conditions. Although these writings acknowledge the impact of broad internal and external contingencies, they maintain that organizations can become proactive agents of change by attempting to manage their external environments[11]."

Recently, the focus of both the strategic planning process in general, and environmental management in specific, has turned towards application within the university sector as exemplified by the works of Thomas[12] and Peterson[13]. Their orientations are consistent with, and build upon, the works of leading profit-sector scholars such as Chandler[14] and Ansoff[15].

This increased study, related to strategic planning processes in universities, may be attributed to four mutually inclusive facts:

1. the external environmental forces and issues (particularly governmental ones) influencing universities are increasing in both intensity and turbulence as evidenced from the works of:
    i) the Carnegie Commission on Higher Education in the United States[16];

ii) the Royal Commission on Post Secondary Education in Canada[17];

iii) both the Leverhulme Programme of the Study into the Future of Higher Education[18], and the University Grants Committees' Letter (request) on Development of a Strategy for Higher Education into the 1980s, in Britain[19], and

iv) the Organization for Economic Cooperation and Development's (OECD) Programme on Institutional Management in Higher Education (IMHE), in Europe[20].

2. the strategic planning process is specifically oriented towards utilizing external environmental information, concerning forces and issues influencing (or potentially influencing) organizations, such as universities, as part of the strategy formulation stage in this process[21-23];

3. there are positive benefits associated with taking a proactive (versus a reactive) stance relative to utilizing environmental scanning techniques to determine the forces and issues influencing, and partially influencing, organizations[24-27], and

4. senior university managers have identified the need to develop more systematic planning processes in order to manage the increasing external pressures, while maintaining the operational integrity of their organizations, by capitalizing on external initiatives/opportunities through having a management planning system that can accommodate such changes[28-30].

Karol and Ginsburg reinforce the aforementioned facts in stating that:

> "Planning can be one of the most critical aspects of higher education management and at the same time has generally been one of the most neglected. Few institutions have attempted to project and analyze external and internal trends and their interrelationships with a sufficient degree of sophistication and discrimination[31]."

Highlighting similar concerns, but on a cross-national comparative basis, recent evidence strongly suggests both the need for, and potential benefits of, comparing the experiences and issues of universities in other countries, because--

> "... experience must be accumulated in order that plans and strategies be quickly and effectively modified to deal with systematic changes in the internal or external environment of the organization[32]."

Such experience, and information enhancing this experience, is especially critical for universities, since research suggests these organizations are just in the initial stages of using strategic planning processes[33-35].

Over the last decade, the works of Fielden and Lockwood[36], Le Vasseur[37], Caty, Ferne, Drilhon and Wald[38], and Tichy[39], have stressed the need for comparative research focusing on strategic planning processes applied particularly to the non-profit sector.

Consequently, this project aims to add to the empirical research base related to strategic planning in universities--particularly the comparative research base related to the organization-environment interface.

(D) Limitations

It is important at the outset of any research report to highlight the areas of limitation that ultimately impact on the final project. The limitations experienced during the course of this investigation can be classified into two primary inter-related groupings--resource limitations and methodological limitations--each with its own set of secondary limitations.

i) Resource Limitations

a) Time

All researchers, especially those engaged in cross-national comparative projects, are faced with the dilemma of managing limited amounts of time available for:

i) travel between the various population sample locations and the home base of operations;

ii) field testing and interviewing the targeted population sample--and this becomes especially critical due to the heavy time-constraints placed on the interviewees as a result of their senior positions and innumerous time-consuming duties making it necessary to schedule and re-schedule interview sessions repeatedly;

iii) completing the total research effort since, as Clover and Balsley point out, there is

> "... the almost universal quality of time limitation placed on research. In nearly all cases, the research must be accomplished with a given space of time[40]."

which limits the potential scope of the project;

iv) the population interviewees to develop their individual perspectives concerning the research focus--the length of time they each had held

their senior positions limited the dynamics of their opinions, contacts and information sources. As Udy states, the time reference limits interaction perspectives in that:

> "Each individual member of any organization has been socialized relative to a larger society, and thus brings with himself into the organization from the outside various expectations and values which inevitably enter into the way he plays his role and interacts with others[41]."

b) Financial

Without unlimited funding, the researcher and project also became limited by the extent of administrative assistance and monies available for the more time-consuming and labor-intensive research tasks, such as arranging and coordinating travel, meeting, review and testing schedules, typing (and re-typing) instruments and drafts, and developing and testing the suitability of other multi-methodological research formats, which in themselves would be more expensive and/or time-consuming.

ii) Methodological Limitations

While there is an established paucity of empirical evidence, employing the fundamental research process, in the inductive mode, utilizing triangulation methodology (to be discussed in Chapter 3) on a cross-national comparative basis[42-45], there are certain limitations, of this format, experienced in this study, including:

i) the review of the literature was limited to period, up until and including, December, 1984;

ii) the research focused partially on environmental variables that were perceived to be in play during the period June 1983 to August 1984, and their impact, relative to the perceptions of the university senior managers interviewed, is limited to the time-frame since, as Clover and Balsley point out:

> "... in the dynamic nature of the environment in which research takes

> place ... puts a further premium on the limitations of time[46]."

iii) by focusing on environmental variables, other significant variables become limited to research. As Negandhi states:

> "... by treating environmental variables as determinants, or explanatory variables, in analysis of management practices and effectiveness in cross-cultural settings, we may unnecessarily limit our horizon and understanding of other significant variables[47]."

iv) the interpersonal contacts and information networks discussed are limited to the time-span confines of this project, since these relationships may alter due to interpersonal contact changes, for example;

v) the triangulation (multiple methods) methodology limits intensive use of one research instrument (breadth versus depth);

vi) the scope of the project is limited to the study of senior university managers in two British and two Canadian universities, and does not, therefore, relate (directly) to other primary and secondary higher education systems and institutions, in either country (to be discussed in Chapter 3);

vii) the project is limited by the semantic orientation of this Danish-Canadian researcher attempting to communicate with and to British audiences, obviously limiting the depth of the socio-cultural nuances interpreted in this work, and

viii) this project itself is limited to a two-dimensional, 'pen and paper' format limiting the dynamics possible via multi-media/format presentations.

Finally, this project is limited to the confines of what de Bono labels the researcher's 'style' which--

> "... determines not what he is capable of but what he will allow himself to do[48]."

(E) Definitions

To ensure that the intent of various key concepts, utilized and developed throughout this project, is interpreted correctly, the operating definitions for the major terms, not specifically defined in other parts of this project, will now be tendered.

These definitions are the authors, based on their ostensive use and development, as found, in the literature.

Closed System -

relates to a system where the primary concern of management is the basic transformation of inputs to outputs--and the (external) environment is taken as a given.

Communications -

relates to a process by which information is exchanged and comprehended by at least two people--primarily with the intent of motivating or influencing behavior.

Communications Channel -

relates to any way in which information reaches the receiver--such as telephone links; interdepartmental memos, and committee meetings.

Conditions of Certainty -

relates to a situation where managers have enough information to be able to predict the outcome of planned decisions.

Conditions of Risk -

relate to a situation where managers can only develop alternatives and estimate the probability of their outcomes.

Conditions of Uncertainty -

relate to a situation where managers' estimates of outcome probability are less known/reliable than under conditions of risk.

Contingency Approval -

relates to a management approach/philosophy that suggests there is no single best way to plan for an organization--the design of the plan depends on the situation both internal and external.

Corporate Appraisal/Audit -

relates to a planning process of assessing strengths, weaknesses, opportunities and threats within the organization.

Disseminator Role -

relates to the passing of special or privileged information that staff would not otherwise be able to obtain.

Emergent Networks -

relates to the development of informal (or emergent) processes and structures that emerge due to individuals responding differently to the issues facing them, and these processes and structures tend to be both unplanned and unanticipated.

Environment -

relates to the environment, within which the organization functions, usually segmented into a variety of sectors.

Environment Sector -

relates to a specific group of factors grouped into segments such as economic, political, social, demographic, legal, and technological areas, for example.

Environmental Concentration -

relates to the extent to which power and the authority to basically control desired organizational plans/ outcomes in the environment is dispersed.

Environmental Force -

relates to an environmental trend that may or may not develop into an issue.

Environmental Information -

relates to information concerning the aspects of those environmental sectors within which an organization is operating.

Environmental Interconnectedness -

relates to the extent to which organizations in the environment are linked to each other.

Environmental Issue -

relates to a condition or pressure in the organization's environment that will have a significant impact on the organization, or its future interests, if it continues.

Environmental Scanning -

relates to the detection of an organization's constituent environmental issues and forces.

Environmental Variability -

relates to the degree of change or uncertainty with which an organization is involved relative to its environment.

Feedback -

relates to information regarding the actual performance or results of the activities of a system.

Information -

relates to knowledge or data that are useful to an individual or group.

Information Overload -

relates to a communication barrier which involves an excess of incoming information to the point where it cannot be utilized.

Informational Roles -

relates to either of three management roles relative to receiving, transmitting and recombining information--these roles are monitor, disseminator and spokesperson.

Interpretive Problem Solving -

relates to a process involving the open, complete, and rapid sharing of information concerning a problem, to arrive at a decision.

Internal Information -

relates to information concerning the organization's functional activities, such as finance, marketing, personnel and operations.

Management Information Systems -

relates to an organized complex of individuals, machines and procedures for providing management with information from both internal and external sources.

Nonverbal Communications -

relates to the transmission of ideas or messages without using words.

Open Systems -

relates to systems where the major focus of management is the basic transformation of inputs to outputs and the environment of the organization.

Organic Organization -

relates to a type of organization that is relatively flexible and is, consequently, ideally suited to unstable environmental conditions where problems continually arise.

Outside-Inside Approach -

relates to a strategy approach where managers focus first on their environment, and then on their organization.

Scenario -

relates to a contingency plan based upon a set of assumptions about the future.

Society -

relates to the totality of social relationships among human beings.

Stable Environment -

relates to an environment where no unexpected changes occur, and the changes that do occur are usually predicted.

System -

relates to a set of interdependent parts which together make up the whole, because each contributes something to and receives something from the whole, which itself is interdependent with the larger environment.

Top-Down Approach -

relates to a strategy approach where the major decisions are made at the top of the organizational hierarchy and communicated to the bottom of the organization.

Turbulent Environment -

relates to an environment where many sudden and usually unpredictable changes occur.

(F) Order of Presentation

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CHAPTER TWO

Review of the Literature

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"The only fence against the world is a thorough knowledge of it."

John Locke
'Some Thoughts on Education'
1693

Introduction

The objectives of this chapter are to review the literature on profit and non-profit organizational strategic planning; to identify the relationships between strategic and environmental scanning, and to establish the significance of these relationships for the non-profit university strategic perspective.

Given these objectives, four critical questions guide its organization and development:

1. What is strategic planning? (Part A)
2. What are the representative models of the strategic planning process? (Part B)
3. How do environmental factors and external relationships affect strategic planning? (Part C)
4. What is the significance, for university strategists, of the trends/issues developed in the first three questions? (Part D)

Prologue

At the outset of this review, the working definitions for the major concepts utilized consistently throughout the four parts of this chapter will be listed:

1) Purpose/Mission -

relates to the long-term vision of what an organization seeks to do and what kind of organization it intends to become.

2) Objectives -

relate to the specific kinds of performance and results which an organization seeks to produce through its activities.

3) Long-term Objectives -

relate to the desired performance and results on an ongoing basis.

4) Short-term Objectives -

relate to the near-term organizational performance targets which an organization desires to attain in progressing towards its long-term objectives.

5) Strategy -

relates to a blueprint of the organizational game plan; it indicates how the organization intends to get where it wants to go via achieving objectives to fulfill its mission.

6) Policy -

relates to the implementation and execution of the strategy via chosen/developed organizational procedures, practices and mechanisms required in carrying out and administering organizational activities.

7) Strategy Formulation -

relates to the process whereby management, in effect, develops a purpose/mission; sets objectives, and chooses a strategy - including all direction-setting components of managing the total organization.

8) Strategy Implementation -

relates to the full range of managerial activities associated with policy development/deployment and operationalizing and controlling the strategy.

Part A - Strategic Planning

i) Planning

The insightful Spanish Jesuit, Baltassar Gracian, three and one-half centuries ago captured the spirit of modern planning in words that set the tone of this chapter:

> "Think in anticipation, today for tomorrow, and indeed, for many days. The greatest providence is to have forethought for what comes. What is provided for does not happen by chance, nor is the many who is prepared ever beset by emergencies. One must not, therefore, postpone consideration till the need arises. Consideration should go beforehand. You can, after careful reflection, act to prevent the most calamitous events. The pillow is a silent Sibyl, for to sleep over questions before they reach a climax is far better than lying awake over them afterward. Some act and think later--and they think more of excuses than consequences. Others think neither before nor after. The whole of life should be spent thinking about how to find the right course of action to follow. Thought and forethought give counsel both on living and on achieving success[1]."

The essence of this quote focuses on the heart of general management planning--the essence of this dissertation. From this quote we notice the concepts of a plan as a process encompassing value judgements about the relationships between the future, the external factors that influence the planner, and his/her goals. These notions are reinforced within this review since they are common to most general management situations. And the tasks performed by general managers are similar to some degree. All managers coordinate the activities of their subordinates to solve problems by ensuring that resources are available to perform the tasks required

to achieve the goals of the organization. Whether they are managing in a profit sector organization (national,[2,3] multinational[4]); a public non-profit sector organization (universities - American,[5] British,[6] Canadian,[7] or European[8]); a private non-profit organization (hospitals,[9] churches,[10] arts organizations[11]); a government (democratic,[12] socialist,[13] communist[14]), or a military[15] organization, managers perform the basic function of planning. The specific relevance of planning to the university organizations will be detailed in Part D of the review.

On a macro scale, the evidence suggests that planning processes within fully developed countries are more similar to, than different from, each other--relative to the process found in either third-world or developing countries (on which the research base about planning is in its embryonic stages)[16,17,18]. The evidence presented in this review is taken within the context of these fully developed countries, including: Canada, Scandinavia, the United Kingdom, the United States, and the European countries.

Organizational planning at the turn of the century focused primarily on the 'present' situation--on what Simon[19] described as 'today's decisions for today's world in today's organization' (a similar situation can be found in many smaller firms today[20]). A gradual shift developed when managers began to see the value of trying to anticipate the future, a process which they operationalized by preparing

systems and procedures manuals, and preparing budgets anticipating future income and expenses. These basic planning and control systems provided better financial control but because of the lack of emphasis on the future in budgeting, long-range planning began to appear. This movement focused on forecasting the future by using economic and technical tools. At this stage, long-range planning, per se, was performed by planners--not management, and consequently did not have a strong impact. In essence, planning had evolved into a 'first-generation'[21] stage where the organization chose the most probable appraisal and diagnosis of the future environment and of its own strengths and weaknesses. From this evolved the strategy for the optimum match of the environment and the firm--a single plan for the most likely future.

The current state of planning, or 'second-generation'[22] planning, focusing on developing alternative scenarios for the future and contingency strategies for each of these future scenarios, has been labelled strategic planning (or management). Currently, this second-generation planning can be viewed as a conscious process by which an organization assesses its current state and likely future conditions of its environment; identifies possible future states for itself, and then develops organizational strategies, policies and procedures for selecting and achieving them.

There are three implied assumptions inherent in this definition that must be established at the outset. It assumes:

1. that the organizations and its managers are concerned about the future, as well as current states, and the means for getting to them;

2. that the managers choose to develop a conscious planning process to reach these states rather than rely on the 'whims' of key individuals or sporadic responses to external events that are perceived to be unpredictable, and

3. that some attempt to assess organizational strengths and weaknesses, and to monitor the environment for opportunities and constraints can lead to changes that are beneficial to the organizations.

Within the developed countries context, the recent evidence of Dyson and Foster[23] (Britain), Eppink[24] (Europe), and Diffenback[25] (North America), support the validity of these three assumptions. These three works demonstrate the dynamic nature of the planning environment and the systems with which the planner interacts.

The aforementioned view of planning also adheres to the systems perspective[26,27] which Johnson has described as:

> "... an organized or complex whole; an assemblage or combination of things or parts forming a complex or unitary whole[28]."

This systems perspective is the most dynamic and comprehensive method for viewing planning. Ansoff,[29] Ackoff,[30] Churchman,[31] Mason and Mitroff,[32] and Pfeffer and Salancik[33] have been among its strongest advocates. (Not surprisingly,

as will be seen later, these authors have also had a significant impact on the field of strategic planning.)

Utilizing this systems approach in planning, the synergistic potential is evident when one considers the systems dimensions examined. According to Churchman, these include:

1. the total system objectives;
2. the system's environment and fixed constraints;
3. the system's resources;
4. the components of the system, its activities, goals, and measures of performance, and
5. the management of the systems[34].

A strong tenet of the systems approach is that all issues, states, conditions or problems must be viewed in a larger, more 'open' context before a planner can decide whether these are worth solving or pursuing.

Open systems advocates have argued successfully that any one issue or problem does not exist in isolation from other issues or problems. Mason and Mitroff suggest that the planner must be aware of the connectedness of all situations when they state that:

> "... it behoves him (the planner) to examine the larger set of problems that lead to and away from any specific problem. Otherwise one courts the danger of solving the 'wrong' problem precisely ... a problem at one level of an organization often pales into insignificance when viewed from another level[35]."

Pfeffer and Salancik[36] argue that this systems perspective is essential in planning, based on their research into the relationships that exist between what Hawley termed 'organizational open-systems perspective between contexts, environments, actions and structures'[38], and what Cyert and March called the 'linkages within the negotiated environment'[39].

Ansoff also embraces both the planning and systems perspectives in his development of a systems plan, which identifies and reduces the gaps between desired (ideal) and expected (anticipated) outcomes identified in an organization's plan, and is characterized by:

1. allowing an organization to go from the environmental situation as it is towards decisions that, in fact, are based on a subjective interpretation of that situation;
2. keeping alive an adequate institutionalization of values in order to come up with a certain consensus about what do do;
3. preselecting what part of the potential environment is relevant for the time being;
4. differentiating the internal system in order to come up with stability by building different sorts of thresholds between the subsystems, and
5. giving flexibility to enable the organization to shift quickly from one plan to another[40].

It is clear, then, that planning is a critical and <u>dynamic</u> organizational process (rather than a static one which relates to the development of a plan rather than a planning process).

The dynamics of planning can also be traced as emanating from different levels of social behavior: individual,[41,42] organizational,[43] or societal[44]. Ansoff, Declerck, and Hayes suggest that the expansion of planning from an organizational to a societal (or environmental systems) level is one of the most critical challenges facing planners in both profit and non-profit organizations.[45] At the organizational level, planning can be described as a separate, analytically oriented institutional function;[46] as an integral part of the decision-making and control function,[47] or as a more politically-oriented policy-making process[48-51].

Defining planning as an organizational process does not imply that the formal structure or technology of that process is unimportant. There is evidence, though, that some organizations (particularly universities) often introduce formal structures for planning, such as a new office or a committee, on the assumption that these themselves are planning[52,53]. A focus on planning as a process reflects the fact that organizations, especially human service organizations with labour intensive functions (such as universities), need to place their primary emphasis on the pattern of activities and relationships among the individuals involved in planning. Structures and techniques make important contributions to planning, but they need to be recognized as parts of the process--not independent or preeminent of it. Figure 1, adapted from Peterson[54], represents one method of depicting the 'process-structure-technology' interrelationships.

FIGURE 1

PLANNING ELEMENTS

Planning Process	Planning Structure
- elements and activities - participants - relationship patterns	- groups and offices - tasks and responsibilities - authority and reporting

Planning Technology

- information systems
- processing systems
- analytic techniques

Highlighted by Chandler[55], and then developed in the literature, the first element, an organization's planning process, can be viewed as comprised of eight components (arrayed into two broad categories) which take into account the patterns of relationships among the process participants:

1. Strategic Elements - environmental scanning
   - institutional assessment
   - values assessment
   - master planning

   (focusing on direction and policy formulation)

2. Tactical Elements - program planning
   - priority setting
   - resource allocation
   - program review

   (focusing on policy implementation)

The second element, the planning structure, involves the organizationally defined offices or positions and groups;

their responsibilities and tasks, and their reporting and authority patterns as they participate in the process.

Thirdly, planning technology refers to the information systems (manual and electronic; organizational and non organizational data bases); the data-processing systems (manual and electronic), and the analysis and research techniques that serve the planning process.

In practice, within both profit and non-profit organizations, these distinctions may become blurred[56,57], yet it is essential that the planning process distinctions be made, for it is the process of planning that forms the 'critical mass' of this review.

Table 1, adapted from Blumenthal[58], depicts an alternative method of demonstrating the nature of the planning process dynamics. Here, the tactical components have been split to show a more elementary level of activity that some authors[59,60] include in the process analysis--the operational components.

Again, Table 1 reinforces the need to not only consider the planning process, but also the aforementioned structures and technology elements if the planning system is to efficiently produce 'activity results' as outlined in Table 1. While the dominant focus for this dissertation rests within the strategic process element, it is important to examine the

process hierarchy (operational-tactical-strategic) in which the planning occurs.

TABLE 1

PLANNING PROCESS ELEMENTS, ACTIVITIES AND INFORMATION

Process Elements	Primary Activities	Activity Results	Activity Examples	Information Requirements
Strategic	Long-range planning Determine organizational resource requirements and allocations	Goals Objectives Policies Long range plans and other strategic decisions	Policy on expansion Social responsibility policy Major capital expenditure policy	Forecasts Simulations Inquiries External reports One time reports Condensed internal reports
Tactical	Allocate assigned resources to specific tasks Make rules Measure performance Exert control	Budgets Procedures Rules and other tactical decisions	Personnel practices Capital budgeting Marketing mix	Forecasts and historical data Regular internal reports Exception reports Simulations Inquiries
Operational	Direct utilization of resources and the performance of tasks in conformance with established rules	Directions Commands Actions and other operational decisions	Production scheduling Inventory control Credit management	Regular internal reports Detailed transaction reports Procedures manuals Current and historical data Programmed decisions

One aspect of the planning process that receives little attention in the literature, relates to the motive of an organization for engaging in the planning process. Aside from the 'fashionable' imperative that organizations should plan, a growing body of literature suggests planning has some positive impacts if done well. Glueck and Jauch[61] demonstrate this in Table 2 summarizing research which examines the benefits of planning.

TABLE 2

THE BENEFITS OF PLANNING - A RESEARCH COMPARISON

Researchers	Sample Size and Firm Size	Types of Firms	Dependent Variables	Basic Conclusions
Karger and Malik (1975)	*N* = 273 Medium to large size	A—Machinery and chemicals B—Drugs and electronics	13 economic performance measures	A—Formal planners significantly outperform nonplanners. B—Some positive findings that planners perform better.
Thune and House (1970)	*N* = 18 Matched pairs Medium to large size	A—Drugs, chemicals, and machinery B—Food, oil, and steel	Sales, stock price, return on equity, return on total capital, earnings per share	A—Formal planners outperformed their own past results and those of nonplanners on most measures. B—No clear associations about planning value; low rate of technological change and new-product introduction in these firms. A+B—Formal planning related to performance most prevalent in medium-sized firms in changing markets.
Herold (1972)	Replicated Thune and House	See Thune and House	Variables used by Thune and House	A—Drugs and chemicals planners outperform nonplanners, and they spend more on research and development; planners increased the margin of performance beyond the Thune and House findings. B—Dropped machinery, food, oil, and steel from sample for various reasons.
Ansoff et al. (1971)	*N* = 93 Large	Varied—all made acquisitions between 1946 and 1965	10 financial and sales measures	Those who planned mergers in a strategic management mode outperformed those who did not on all measures. Companies using strategic management were able to predict outcomes better than nonplanners.
Wood and LaForge (1974)	*N* = 61 Large	Commercial banks	Growth in net income, return on owner's investment	Comprehensive formal planners outperformed partial planners and nonplanners.
Burt (1978)	*N* = 14 Medium	Australian retailers	13 sales and finance measures	High-quantity planning is associated with high performance. Moderate-quality planning is associated with moderate performance.
Eastlack and McDonald (1970)	*N* = 211 Medium and large	Varied industries	Growth in sales and assets	CEOs who involved themselves in strategic management headed the fastest-growing companies.
Stanford Research Institute (1957)	*N* = 379 Medium and large A—210 high growth B—169 low growth between 1939–1949 and 1949–1956	Varied industries	Growth rate in sales and earnings	Planners outperformed nonplanners.
Hegarty (1976)	*N* = 46 Medium to large	Varied industries	Several financial measures	Firms linking objectives to strategies prospered financially.
Stagner (1969)	*N* = 109 Large	Varied	Profit as a percentage of sales	Firms using formal top management committees to develop strategy had better performance.

Table 2 (Continued)

Researchers	Sample Size and Firm Size	Types of Firms	Dependent Variables	Basic Conclusions
Schoeffler et al. (1974) PIMS	$N = 57$ Large	620 different business segments	Return on investment	Firms which make plans about such variables as market share, investment intensity, and corporate diversity are likely to perform better. (The conclusion is based on consistent findings about the impact of these variables on ROI in a regression equation.)
Rue and Fulmer (1972)	$N = 386$ Medium and large	A—Durable-goods manufacturing B—Nondurable-goods manufacturing C—Service businesses	4 financial criteria	A—Formal planners performed better. B—Mixed results. C—No difference, but planners had not been involved in formal planning as long as those in manufacturing firms
Kallman and Shapiro (1980)	$N = 298$ Small to large	Motor freight carriers	Growth rate on 5 indicators	No difference in profitability between sophisticated planners and nonplanners, regardless of size, geographic territory served, time planning has been used, or type of commodity hauled. They suggest that a stable, controlled environment (pre-deregulation), control of labor costs by unions, and the inability to control fuel or equipment costs reduce the need for planning.
Najjar (1966)	$N = 94$ Small	Ohio firms in varied businesses	Executive perception of success	Executives who planned did not necessarily think they were more successful than those who did not plan. Actual performance was not measured.
Kudla (1980)	$N = 328$ Varied	Varied	Various financial ratios and return on net assets	Strategic planning led to a short-term decline in systematic risk measured by beta, but subsequent risk differences over time were not found. Formal planning was not related to ROA.
Grinyer and Norburn (1975)	$N = 21$ Varied	Varied firms in United Kingdom	Return on net assets	Neither a common perception of objectives, clarity of role perception, nor formal planning was related to returns. Communication channels and the amount of information in decision making were related to performance
Leontiades and Tezel (1980)	$N = 61$ Mostly large	Varied	Return on equity, return on assets, P/E multiples, growth in earnings per share, sales growth	No association between performance and self-perceived formal or informal planning.
Sheehan (1975)	$N = 300$ Large	Varied firms in Canada	4-year growth in size of assets, sales, income, employees, stock value	Firms doing more formal planning grew more slowly.

ii) Strategy

While planning as a process encompasses the strategy component, the history, significance and impact of strategy for organizations, will now be reviewed.

The history of strategy can be related to its scope, as summarized in Table 3, adapted from Bracker[62].

TABLE 3

HISTORICAL SCOPE OF STRATEGY

	Macro	Micro	Macro
Time	3000 B.C. Fall of Greek City-States	Roman Empire Industrial Revolution	Post World War II Future
Rationale	National markets Large, complex interrelated organizations	Oligopolistic environment Unlimited resource availability Lack of national markets Lack of ability to anticipate change Stable environment	Dynamic environment New technology Ability to anticipate change National markets Ability to deal with uncertain future
Strategy Definition	Effective use of resources to meet objectives	Effective use of resources to meet objectives	Analysis of internal and external environments of the firm in order to maximize utilization of resources in relation to objectives
Major Contributors	Early Greek writers such as Homer, Euripides, and Socrates	Shakespeare, Montesquieu, Kant, Mill, Hegel, Clausewitz, Tolstoy	Von Neumann & Morgenstern, Drucker, Chandler, Ansoff, Glueck, McNichols, Steiner, Miner, Mintzberg, Hofer, Schendel
Application of Strategy	Business, Military and Government	Military and Government	Business, Military and Government

From Table 3 the significance of strategy can be seen from the prominence this concept has in the literature, covering thousands of years in time and concerning both the military and business. Strategy becomes especially

significant when related to the 'futures' perspective, implied in the strategy process (as will be demonstrated later).

Four exemplary and significant works (significant as a function of being heavily cited by professional and academic authors, and being representative of the significant scholars) dealing with the topics of military strategy (Liddell-Hart[63]), organizational strategy (Ansoff[64] and Andrews[65]) and futures strategy (Michael[66]), will be briefly reviewed and summarized.

As seen in Table 3, the literature on military strategy is vast. One of the earliest, and most dynamic, statements on military strategy is that of Sun Tzu, written in China around 360 B.C. and now entitled 'The Art of War'[67]. Some writers have ignored this work due to a preoccupation with the more classic (and romantic) research of the Greek period from 550 B.C.-300 B.C. (as Table 3 demonstrates) where the word strategos (meaning a general in command of an army) has been traced. During the Greek period, three aspects stand out:

1. the simultaneous stability and fluidity of the organizational role of the strategies (a board of ten elected generals);
2. the evolution of the idea of strategy over a 200 year period, and
3. the richness of data pertaining to strategy research.

However, Sun Tzu was the first writer to encompass the dynamics of military strategy, as stressed later by Clausewitz[68] and Liddell-Hart.

Liddell-Hart is included in the overview for three reasons:

1. he provides a concise and internally consistent statement of the concept of strategy in the military field;
2. he is the most influential/significant writer in military strategy between 1930-1984, and
3. his writings are consistent with Sun Tzu, spanning 2,400 years of military history.

Liddell-Hart's definition of strategy can be related to a list of pragmatic guides which summarizes his assessment, based on his systematic study of battles and wars over a 2,400 year period, into eight positive and negative options (adopted from Evered[69]):

\+ 1. Adjust your end to your means.

\+ 2. Keep your objective always in mind.

\+ 3. Choose the line (or course) of least expectations.

\+ 4. Exploit the line of least resistance.

\+ 5. Take a line of operation which offers alternative objectives.

\+ 6. Ensure that both plan and dispositions are flexible--adaptable to circumstances.

\- 7. Do not throw your weight into a stroke while your opponent is on guard.

\- 8. Do not renew an attack along the same line (or in the same form) after it has once failed.

While the military applications of strategy to planning have their unique requirements due to the combative nature of their eventual utilization, the eight options listed

above can all be adapted into a more business-like setting. And as can be seen from Liddell-Hart's list, these options fit with our systems orientation of the planning process by considering the future; developing alternatives, objectives and flexibility; monitoring the external environment, and having a control system to provide feedback for this decision-making and problem-solving process.

The organizational literature emphasizing business strategy is also dynamic--but dynamic due more to depth than to the breadth of the military focus.

From a modern organizational history perspective, strategy can be summarized from a definition perspective as outlined in Table 4[70].

From this relatively brief chronology, it can be seen that the key components of the definitions are consistent with the planning and military analyses. Here again the concepts of the future; the environment; developing alternatives, plans and procedures, and objectives are found. More important, though, is that the concept of a mission or purpose is developed and that the process is broken into the sub-parts of formulation and implementation, all of which will be examined later.

Since the dominant focus of this dissertation relates to organizational strategic planning, two significant contributors to the field are referred to here.

TABLE 4

A CHRONOLOGY OF STRATEGY DEFINITIONS

Date	Contributor and Source	Definition
1947	Von Neumann & Morgenstern, *Theory of Games and Economic Behavior* [pp. 79-84]	Strategy is a series of *actions* by a firm that are decided on according to the particular *situation*.
1954	Drucker, *The Practice of Management* [p. 17]	Strategy is analyzing the present *situation* and changing it if necessary. Incorporated in this is finding out what one's *resources* are or what they should be.
1962	Chandler, *Strategy and Structure: Chapters in the History of American Industrial Enterprise* [p. 13]	Strategy is the determinator of the basic long-term *goals* of an enterprise, and the adoption of courses of *action* and the allocation of *resources* necessary for carrying out these *goals*.
1965	Ansoff, *Corporate Strategy: An Analytic Approach to Growth and Expansion* [pp. 118-121]	Strategy is a rule for making *decisions* determined by product/market scope, growth vector, competitive advantage, and synergy
1968	Cannon, *Business Strategy and Policy* [p. 9]	Strategies are the *directional action decisions* which are required competitively to achieve the company's *purpose*.
1969	Learned, Christenson, Andrews, & Guth, *Business Policy: Text and Cases* [p. 15]	Strategy is the pattern of *objectives, purposes,* or *goals* and major policies and plans for achieving these *goals*, stated in such a way as to define what business the company is in or is to be in and the kind of company it is or is to be.
1971	Newman & Logan, *Strategy, Policy, and Central Management* [p. 70]	Strategies are *forward-looking plans* that anticipate change and initiate action to take advantage of *opportunities* that are integrated into the concepts or *mission* of the company.
1972	Schendel & Hatten, Business policy or strategic management, *Academy of Management Proceedings* [p. 4]	Strategy is defined as the basic *goals and objectives* of the organization, the major *programs of action chosen* to reach these goals and objectives, and the *major pattern of resource allocation* used to relate the organization to its environment.
1973	Uyterhoeven, Ackerman, & Rosenblum, *Strategy and Organization: Text and cases in General Management* [pp. 9-10]	Strategy provides both *direction* and cohesion to the enterprise and is composed of several steps: *strategic profile, strategic forecast, resource audit, strategic alternatives explored, tests for consistency* and, finally, *strategic choice.*
1974	Ackoff, *Redesigning the Future* [p. 29]	Strategy is concerned with long-range *objectives* and ways of pursuing them that affect the system as a whole.
1975	Paine & Naumes, *Strategy and Policy Formation: An Integrative Approach* [p. 7]	Strategies are specific major *actions* or *patterns of actions* for the attainment of the firm's *objectives*.
1975	McCarthy, Minichiello, & Curran, *Business Policy and Strategy: Concepts and Readings* [p. 19]	Strategy is an analysis of the *environment* and selection of economic alternatives that will match the corporate *resources* and *objectives* at a risk commensurate with the profit and viability which the alternatives offer.
1976	Glueck, *Business Policy: Strategy Formation and Management Action*, 2nd ed. [p. 3]	Strategy is a unified, comprehensive, and integrated *plan* designed to assure that the basic *objectives* of the enterprise are achieved.
1977	McNichols, *Policy Making and Executive Action*, 5th ed. [p. 9]	Strategy is embedded in policy formulation: it comprises a series of decisions reflecting the determination of basic business *objectives* and the utilization of *skills* and *resources* to attain these *goals*.
1977	Steiner & Miner, *Management Policy and Strategy: Text, Readings, and Cases* [p. 19]	Strategy is the forging of company *missions*, setting *objectives* for the organization in light of *external* and *internal forces*, formulating specific policies and strategies to achieve *objectives*, and ensuring their proper implementation so that the basic *purposes* and *objectives* of the organization will be achieved.
1979	Mintzberg, *The Structuring of Organizations* [p. 25]	Strategy is a mediating force between the organization and its *environment*: consistent patterns in streams of organizational decisions to deal with the *environment*.
1979	Schendel & Hofer, *Strategic Management: A New View of Business Policy and Planning* [p. 516]	Strategy provides directional cues to the organization that permit it to achieve its *objectives*, while responding to the opportunities and threats in its *environment*

The work of Ansoff is included in this overview for five reasons:

1. he has unquestionably dominated and significantly influenced the fields of organizational planning and strategy for the last two decades;

2. he articulates and integrates the myriad external changes, that envelop organizations more today than in the relatively quiet 1950s and early 1960s, into his strategic theories;

3. he is one of the few leading scholars to show himself to be very critical of his own views and is not reluctant to reconsider them--he 'practices what he preaches';

4. he has consistently synthesized, starting with his first major work in 1965[71], the individual and organizational perspectives (considering the leading works of Cyert and March, and Chandler) with the societal, into his strategy frameworks--the societal (and future) focus taking dominance now, and

5. he has coherently changed perspectives, along with the literature, from business and corporate <u>planning</u> to <u>strategic planning</u> (or management).

The dynamics of his perspective can be drawn from his summary overivew of the strategy challenge:

> "During the first half of the century, the primary occupation of the majority of firms had been with what we have called operating profit and growth-making activity. Strategic activity was relatively minor in volume and confined to product improvements and intra-national market expansion. Major strategic reorientations occurred infrequently, as exceptional events, when the firm found that its historical growth potential had somewhat become exhausted. From the 1950s on, for reasons discussed elsewhere the tempo of the strategic activities picked up progressively, and in the 1980s a need for periodic strategic reorientations appear as the lot of most firms. As a result, one of the key problems of general management today is how to balance the firm's attention between making profits in the near future and assuring (through strategic

> activities) a continuing renewal of the profit potential both for the near and the long term future. But strategic and operating activities are uneasy bed fellows: The compulsive profit-making "real-time" character of operations tends to dominate the "off-line" profit-absorbing strategic work. Furthermore, even if operating capacity is diverted to strategic work, it turns out to be ineffective in performing such work. In addition, while incompatible during execution, the output of the strategic activity must be closely linked to operations because newly developed products do not begin to make money until they are taken over by profit-makers.
>
> Hence, management is increasingly faced with a dual task; to integrate and balance strategy and operations on the one hand, and to keep them distinctive and non-interfering on the other[72]."

It can be seen that Ansoff's perspective is consistent with the aforementioned distinction between strategic and tactical elements and that he advocates more of an orientation towards strategic management of the process and its results--the strategies.

The work of Andrews is also highlighted for three reasons:

1. he concisely states the Harvard approach to strategy; namely a focus on the organizations as a whole system; on the major functions of the chief executive officer/manager; on decisions that affect the identity, character and purpose of the organization, and on integrating and synthesizing rather than analyzing. This approach is evident in the first article published in the Harvard Business Review in 1922, by the Dean of the School of Business, who contended that unless business systematized its decision making, business decisions would not be much different from gambling decisions[73];

2. he presents a consistent statement--consistent with the military perspective; the systems perspective; consistent with other 'significant' management scholars, and consistent with this author's perspective of strategy, and

3. he presents a balanced perspective of strategy which has evolved over the last three decades including the works of Van Neuman and Morgenstern[74], Chandler[75], Ansoff[76], Uyterhoven[77], Hofer and Schendel[78], Steiner and Miner[79], and Mintzberg[80].

The depth of Andrews' conceptual and process integration, relative to strategy, is evident in his definition of strategy:

> "... strategy is the pattern of decisions in a company that determines and reveals its objectives, purposes or goals, produces the principal policies and plans for achieving those goals, and defines the range of business the company is to pursue, the kind of economic and human organization it is or intends to be, and the nature of the economic and non-economic contribution it intends to make to its shareholders, employees, customers and communities[81]."

This concept of strategy is again a process view dominated by the determination of organizational purpose, in economic, human and social terms, and most importantly, in consideration of the <u>future</u> character of the organization relative to opportunities, threats and constraints.

Evident, from the aforementioned discussions on the planning process and the interrelationships between this process and the development of the concepts, of both military and business strategy, is the obvious (and essential) focus on the future. Steiner reinforces this notion when he argues:

> "A cardinal purpose of planning is to discover future opportunities and make plans to exploit them[82]."

Argenti relates the necessity to engage in futures research when he states -

> "Over the past decade or two, as the levels of uncertainty in the world have risen - partly as a result of that momentous event in 1973 when the price of oil quadrupled - professional corporate planners have developed more and more sophisticated methods of forecasting ...[83]."

Ansoff stresses the need for a future orientation to avoid crisis. He observes that:

> "In the majority of crisis situations, which are more and more prevalent as environmental turbulence increases, management is typically unprepared and becomes a part of the crisis rather than its resolver[84]."

On a macro basis, the necessity for engaging in, and establishing, future strategies is evident from the work of the Conference Board[85] in North America, and the European Foundation for Management Development[86] in Europe. Both these organizations combine futures research perspectives, and participants, from government, business and academic organizations. The significance of such a voluntary 'coalition' will be reinforced later.

All futures research is both a form of strategic 'thinking' and of planning constructively with the challenge of changing environments. This notion is emphasized in the works of de Jouvenel[87], Tugwell[88], and Fowles[89]. However, the work of Michael has been selected as the most representative work on strategies in futures research for four reasons:

1. he has developed the most comprehensive and advanced statement in the task of changing society in the direction of a future-responsive societal learning

system and presents a strategy for generating long-range societal planning;

2. his work has been seminal for many of the later writers on the requirements involved in changing toward a future-responsive learning system;

3. his statement of strategy as futures-creating is a 'leading-edge' statement a decade ahead of its time since the field of futures research is now catching up to what he wrote, and

4. his focus is consistent with the system's perspective.

Michael's strategy can be summarized by the following three requirements necessary to change the current societal processes towards new societal processes:

i) present actions must be influenced deeply by sophisticated analysis and scenario development about relevant future societal contexts (future-thinking);

ii) through all stages of movement into the future, the societal and natural environments must be scanned and the feedback from this scanning must control any changes in the future-oriented plans (feedback-control), and

iii) the formal societal goals and the implementations of action strategies to achieve the goals must be mixed, conceptually, and operationally, with the goals so as to serve as regulators of societal development (regulations)[90].

From the analysis of these four representative works on strategy by Liddell-Hart, Ansoff, Andrews, and Michael, five elements, common to all, are:

1. strategy is a continuous and evolving decision-making and problem-solving process;

2. strategy involves value judgements;

3. strategy involves assessing and generating change;

4. strategy necessitates resource mobilizations relative to preferred futures, and

5. strategy embodies the systems perspective--the whole situation and environment (both internal and external).

The validity of this synthesis is further augmented in the recent work of Ansoff, Declerck, and Hayes, who state:

> "... the strategic planning problem itself has undergone significant changes in emphasis. From an instrument for correcting a partial strategic imbalance with the environment, it is coming to concern itself with the changeability of all economic and social linkages with the environment, with increasing incidence of major surprises and with ecological and resource constraints[91]."

Table 5[92] summarizes their positions and reinforces that of this overview.

TABLE 5

EVOLUTION OF STRATEGIC PROBLEM

Dimension	Time period 1960	1975	1980	1985
External linkages Techno-economic - informational	Strategic imbalance	Continual change	Surprises	Constraints
Internal configuration Techno-economic - informational	Utilization of strengths avoidance of weaknesses	Capability transformation	Multi-capability	Flexible capability
Internal confirguration Psycho-socio-political		Societal participation	Redefinition of norms and objectives	Responsiveness to participants' needs
External linkages Psycho-socio-political	Pressures for social responsibility	Societal-ecological constraints	Conflict with national sovereignty	NEW RAISON D'ETRE

Given the predictions for the future, as seen in Table 5, it is clear that any organization's strategic planning process must develop strong links with the environmental systems with which it must interact. And the internalization of this environmental information will be a critical success factor for an organization looking to position itself into opportunity gaps that exist in its competitive environment.

Summary

The first question asked in Part A was, "What is strategic planning"? From the perspective of both profit and non-profit organizational management, it represents what Jauch and Osborn have labelled an 'integration'[93]. And this integration of a spectrum of perspectives, utilizing both the military and futures strategy concepts, in light of a current societal/ environmental orientation, can be critical for profit and non-profit organizational management (and planning). One end of this spectrum relies heavily on past determinants, whereas the futures end offers an invitation to experience the indeterminancy of the future.

Leontiades offers a very suitable answer to the question of 'What is Strategic Planning'? by articulating the functions of the strategic planner. He concludes:

> "The effective corporate strategist is comfortable and skillful at either end of the spectrum (past-futures) and at all points in between. He knows how to bridge, mediate, synthesize or mix ... in a way that is appropriate to the immediate, local present, and to the long-range collective future. He also knows how to manage his own feelings of ambiguity and uncertainty in mediating between the two views of reality[94]."

In summary, this author contends that strategic planning, therefore, involves managing and balancing an information network focused around the strategic and tactical/operational elements within a process-structure-technology framework. This will help ensure that the formulation, implementation

and management of strategic decisions, based on the analysis and evaluation of gaps between environmental and organizational opportunities and constraints, effectively and efficiently prepares any organization for the future realities of its environments.

The representative models of this strategic planning process will now be reviewed.

"If we can know where we are and something about how we got there. we might see where we are trending--and if the outcomes which lie naturally in our course are unacceptable, to make timely change."

Abraham Lincoln
Message to Congress
1861

Part B - Modelling the Strategic Planning Process

The importance of reviewing the significant models that represent the strategic planning process is obvious if one understands what modelling actually constitutes. Modelling can be defined as:

- a miniature representation;
- a pattern of something to be made;
- an example for imitations or emulation;
- an interpretation[1].

For the purpose of this overview, modelling will be defined as the representation of interaction between those elements required to facilitate decision-making within the organizational strategic planning process (outlined in Part A).

The prominent models will now be reviewed to gain further insight into the dynamics of the strategic planning process and to help demonstrate how knowledge and utilization of strategic modelling can help organizations further develop their strategic planning processes.

In Table 12, Camillus reinforces the validity of a modelling perspective in his summary of both the history and the orientation of strategic planning models found in the literature. Table 1 summarizes his work, linking research on multi and single business planning stages, with Structure, Process and Content (Technology) dimensions.

TABLE 1

MODELLING ORIENTATIONS FOR STRATEGIC PLANNING

Transition Stages / Linkage Dimensions	Multibusiness Organizations	Single-Business Organizations		
	Corporate Strategy to Business Strategy	Business Strategy to Action Planning	Action Planning to Budgeting	Budgeting to Executive Action
Structure	Chandler [1962] Channon [1973] Rumelt [1974] Steiner & Miner [1977] Thorelli [1977] Galbraith & Nathanson [1978]	Chandler [1962] Channon [1973] Rumelt [1974] Steiner & Miner [1977] Thorelli [1977] Galbraith & Nathanson [1978]	Lawrence & Lorsch [1967] Camillus [1972] Shank et al. [1973]	Weber [1947] Thompson [1967] Miller & Rice [1967] Lawrence & Lorsch [1967] Ouchi [1977]
Process	Ansoff [1965] Berg [1965, 1969] Vancil & Lorange [1975] Lorange [1975] Hofer & Schendel [1978] Camillus [1980b]	Ansoff [1965, 1977] Aharoni [1966] Steiner [1969, 1979] Bower [1970] King [1974] Vancil & Lorange [1975] Steiner & Miner [1977] King & Cleland [1978] Camillus [1980b, 1980c]	Steiner [1964, 1979] Vancil & Lorange [1975] Anthony & Dearden [1976] Bhattacharyya [1976] Ansoff [1977]	Argyris [1953] Stedry [1960] McGregor [1960] Becker & Green [1962] Jerome [1963] Thompson [1967] Hofstede [1967] Camillus [1976]
Content	Ansoff [1965] Berg [1965, 1969] Hedley [1977] Hofer & Schendel [1978] Camillus [1980b]	Bhattacharyya [1972, 1976] King & Cleland [1978] King [1979]	Camillus [1972] Shank et al. [1973]	Stedry [1960] Jerome [1963] Vroom [1964] Hofstede [1967] Prince [1975] Anthony & Dearden [1976] Bhattacharyya & Camillus [1978]

From Table 1, it is clear that there can be considerable diversity in modelling research orientations, yet the transition from first-generation to second-generation planning (Part A) is clear--as is the dominance of the process-oriented works, substantiating the evidence in Part A. However, it is also obvious that a model could/should take into account an organization's transition (or life-cycle) phase (discussed later), and the three dimensions (or elements) also mentioned in Part A.

To ensure the representation of the systems perspective in the modelling process, Shirley[3] argues that the 'strategic decision set', which a planning model can help formalize, must be considered. This set can be comprised of seven segments, including:

1) Basic Mission

> "Basic mission is determined by the fundamental purposes of the firm, that is, the broad aims of the organization that constitute its basic raison d'etre. A statement of purpose should document decisions made about the firm's obligations to its various environments and stakeholders, as well as the general range of products/services and types of industries considered to be appropriate for the firm's participation. Articulation of such decisions, although broad and necessarily vague in some instances, provides the necessary unifying themes for the organization and the basis for decisions made on day-to-day basis. As noted by Mitroff and Emshoff (1979), the technique of "stakeholder analysis" is a useful device for assumption--surfacing with regard to fundamental purposes[4]."

2) Customer Mix

"The customer mix is the specific target market(s) to be served by the firm, including basic decisions about customer needs and demographic characteristics that are to be used in defining market segments. In short, who are the firm's customers and what are its primary markets[5]?"

3) Product Mix

"The product mix is the specific products or services to be offered by the firm in order to serve the needs of the target market(s). This category also includes decisions related to price/quality relationships among product lines, the relative emphasis (in terms of resource investments) to be placed on various products, the focal points for new product development, and the timing for introduction of new products and/or withdrawal of existing ones[6]."

4) Service Area

"The geographic service area is determined by the physical boundaries established for the firms activities, including the channels established to distribute the products to the target markets[7]."

5) Goals and Objectives

"By goals and objectives is meant the specific end results that the firm is seeking to accomplish in regard to profitability, growth, market share, and other areas. The degree of risk that the firm is willing to assume is a critical component of goal setting that should be included here[8]."

6) Competitive Advantage

"The means by which the firm seeks to differentiate itself from other firms in the same industry or industries is termed competitive advantage. As noted earlier, the means for differentiation may be highly specific and isolated within the firm.

> However, the strategic choice between alternative means is focused directly on the interface between the firm and its competitive environment[9]."

7) Outside Relationships

> "Relationships with government, suppliers, financing sources, and other major constituencies and/or interest groups comprise a strategic area that includes many decisions. Such decisions involve content and mode of interaction with key individuals or groups that exist in the firm's external environment (e.g., issues related to alternative capital structures, sources of raw material, key legislation affecting the firm)[10]."

These segments are consistent with the key concepts seen in the strategy definitions chronology (Part A) and with the planning systems perspective.

These seven segments are also incorporated in the majority of models representing the strategic planning process in private, public and not-for-profit sectors.

There are three distinct strategic modelling process orientations, though, that must be considered--formulating, implementing, and managing the process. This distinction has been noted by various authors[11,12] and is illustrated in Figures 1, 2, 3--based on the modelling surveys of Hosmer[13].

FIGURE 1

MODELLING THE STRATEGIC PLANNING PROCESS - FORMULATION

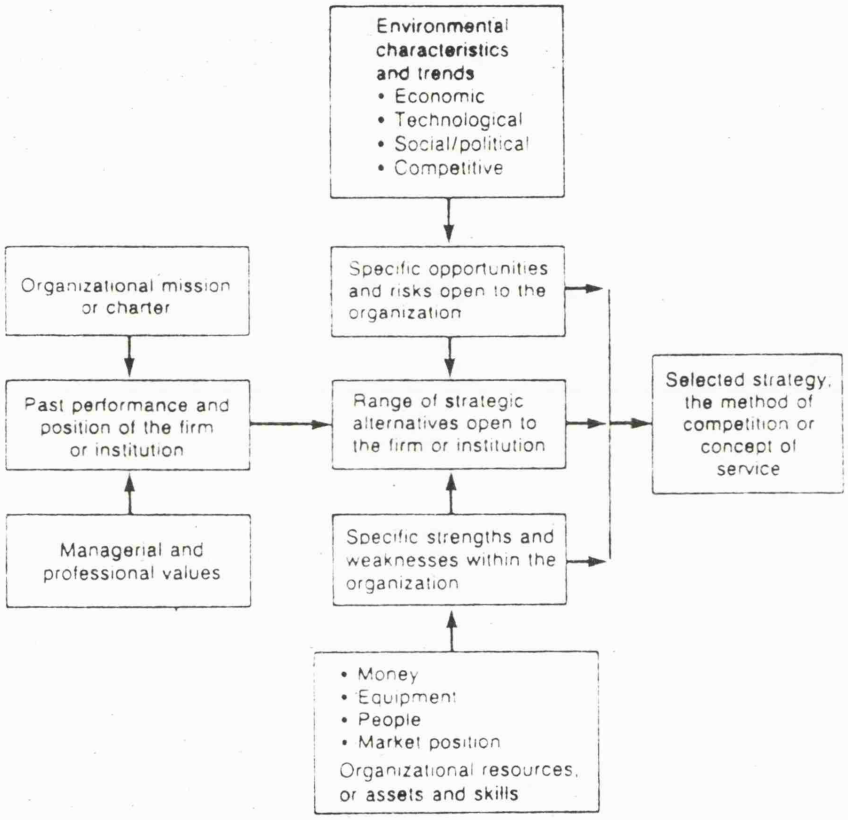


FIGURE 2

MODELLING THE STRATEGIC PLANNING PROCESS - IMPLEMENTATION

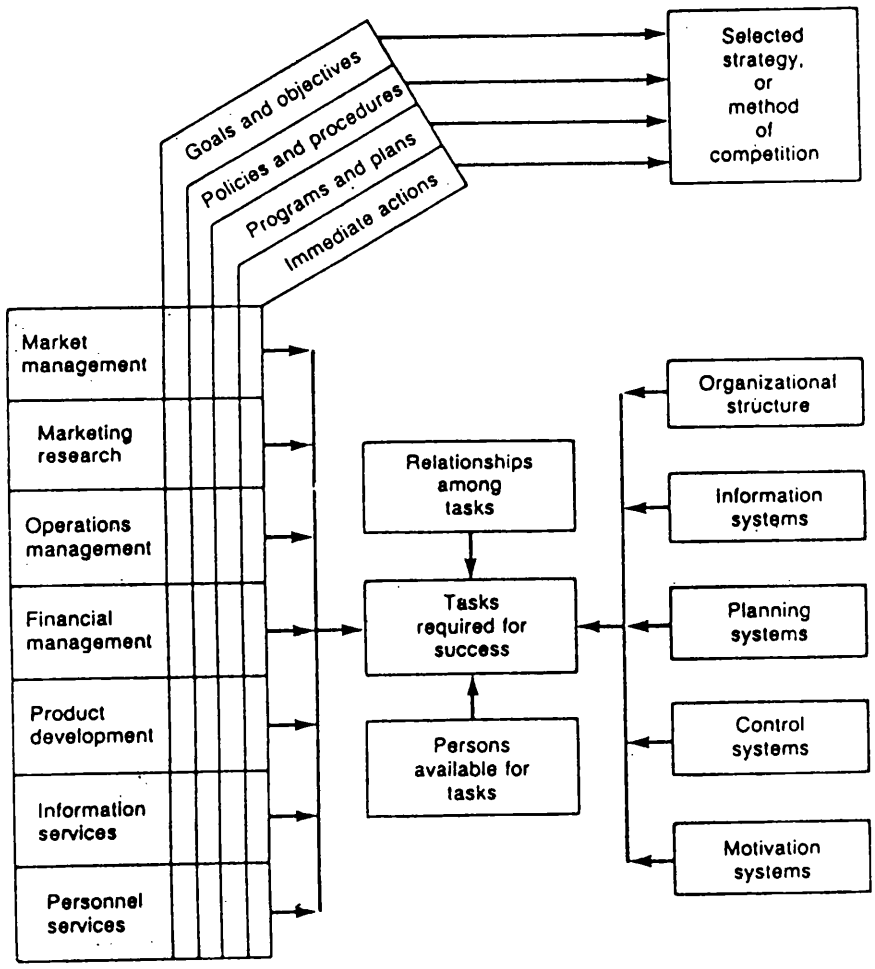
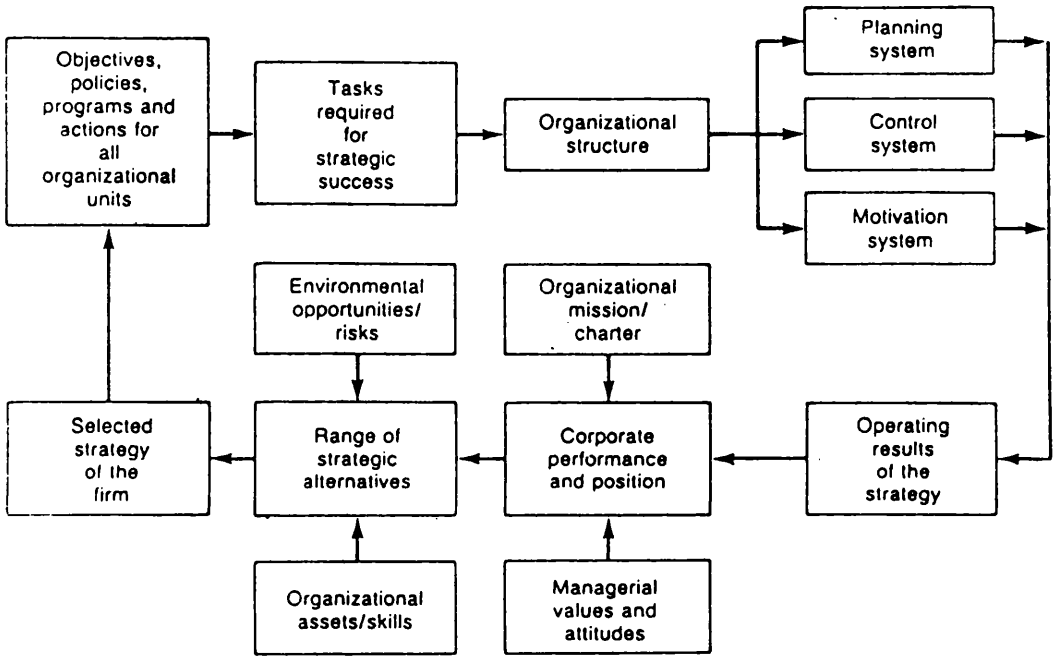


FIGURE 3

MODELLING THE STRATEGIC PLANNING PROCESS - MANAGEMENT



All three modelling orientations encompass the strategic decision set elements and provide a framework of reference regarding what planning elements and what flow of information and decision activities are required to first, select the strategies; second, to implement them throughout the organization, and third, to manage this ongoing strategic planning process. Figure 3 illustrates this 'managing' aspect in that the arrows, representing information and decision activity order and flow, form a continuous loop. Both Figures 1 and 2 are non-looping, emphasizing the fact that the formulation and implementation processes, by themselves, are unrepresentative of the ongoing and continuous nature of the strategic planning

process. The 'continuous' aspect of the process is integrated in the strategic management model. Thompson, Strickland and Fulmer reinforce this notion when they state:

> "The mechanism (modelling) is an interactive process .... Strategy formulation is conceptually simple, pragmatically complex, and only part of the general management function. The other part is, of course, Strategy implementation .... (As with formulation) there is also a routine and generally accepted outline of that process .... The implementation mechanism is a sequential decision .... Strategic planning and management cannot, in practice, be separated into twin halves of formulation and implementation ... it is the simultaneous consideration of the formulation and implementation of strategy, and this consideration is essential for the success of the company due to the continual process of change in the environment and in the organization which must be reflected in the method of competition for the firms[14]."

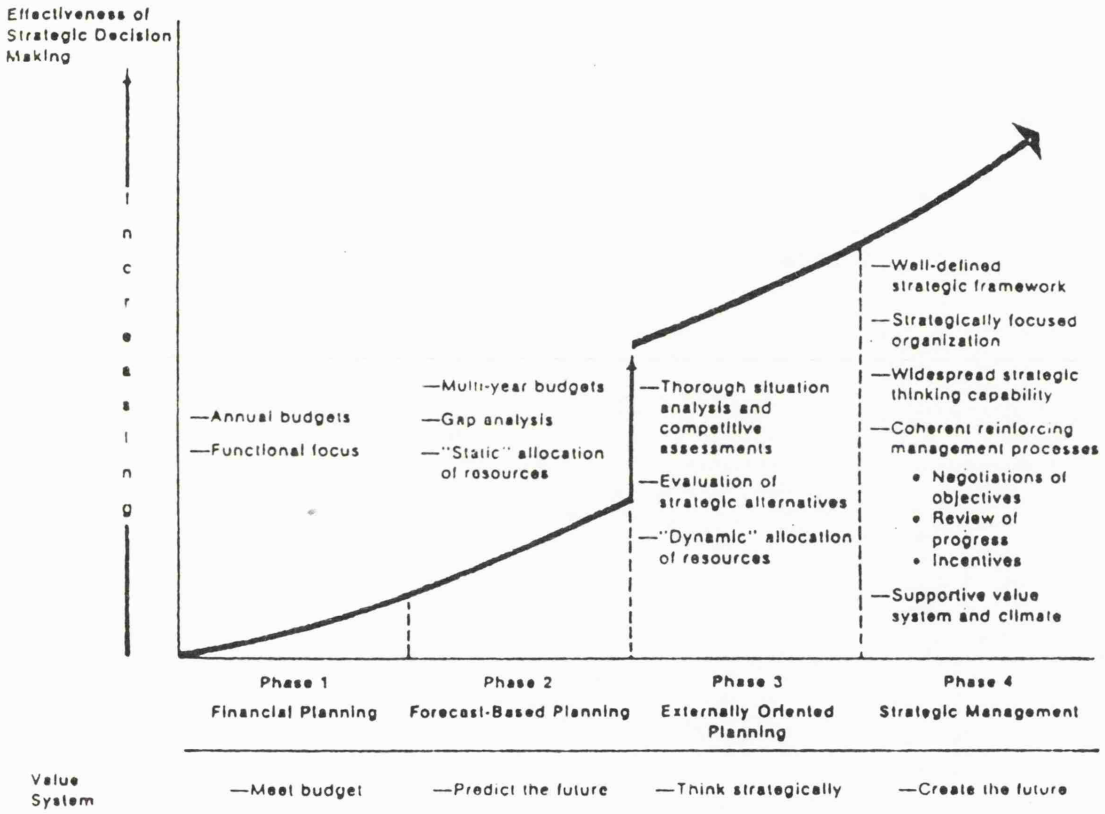
This author concurs with such a rational management process modelling orientation--and this orientation forms the dominant perspective for this overview because it embodies the essence of, what Waltion termed, synectic (a neologism of a Greek term meaning the fitting together of different and apparently irrelevant elements) avoidance[15].

Common to the representative models reviewed are four prevailing characteristics/trends:

1) Models have evolved, along with the dynamics of planning, and strategy, from primarily being content (technology) or structure oriented (Table 1), to a phase where they now integrate content with the process and structure elements (Figure 4[16]).

FIGURE 4

EVOLUTIONARY PHASES OF STRATEGIC DECISION-MAKING MODELS



2) The aforementioned 'decision set' (highlighted by Shirley) seems to integrate throughout the modelling process, what Dyson and Foster label 'strategic planning attributes', which include:

- Clear statement of objectives. An effective model will focus on the objectives, clarify these and keep them in view throughout the process;

- Integration. A strategic modelling process will only be effective if the plans and analyses become the focus of the strategic decision making of the organization;

- Catalytic action. Modelling will be more effective if planners stimulate other participants to think strategically throughout the process;

- Richness of formulation. An effective modelling system will explore a wide range of possible futures rather than concentrating solely on a single history extrapolated one;

- Depth of evaluation. In evaluating a modelling plan multiple criteria associated with a variety of resources should be used;

- Treatment of uncertainty. The evaluation of modelling plans should take account of the uncertainty in estimates of demands forecasts, costs, economic environment and other exogenous variables;

- Resources planned. Organizations are dependent on a number of resources, including finance, manpower, raw materials and equipment, and strategic modelling should consider them all;

- Data. It is important that adequate data are available for modelling. Insufficient data can lead to unnecessary approximation or complete gaps in the process. Excessive data with purious accuracy can also confuse rather than enlighten;

- Iteration of the process. As the model develops through the planning cycle, information will emerge that is relevant to previously completed parts. An effective modelling process will recognize its relevance and cause appropriate modifications to be made;

- Assumptions. Models are necessarily based on assumptions. These must be explicit so that unrealistic and inconsistent assumptions are avoided;

- Quantification of goals. An effective modelling process can quantify goals where this is appropriate and recognize qualitative goals;

- Control measures. A static model rapidly becomes valueless in times of change. An effective modelling process will include a feedback mechanism leading to modifications, and

- Feasibility of implementation. An effective modelling process will anticipate barriers to the implementation of any given element and avoid them, or accept that they cannot be surmounted. Assessing feasibility may include such factors as: negotiations with the workforce; obtaining planning permission; securing supplies; and satisfying environmental constraints[17].

3) To ensure that these 'attributes' become instilled throughout the modelling process steps, specific management capabilities are required as detailed by Ansoff, Table 2[18]. (Note: Although Ansoff uses ten steps in this model, this is not definitive--only representative. An interesting aspect of Ansoff's list, is that he focuses on a 'gap analysis', in step number 8. This approach to determining corporate capabilities in view of environmental opportunities, was referred to earlier in Part A and in Figure 4, during Phase 2 of the history of strategic models. Recently, there has been a renewed interest in this approach for 'making and controlling a balance between strategic and operating concerns'[19,20].)

4) The applications and orientations of any strategic planning model should be representative of the organization's life-cycle stage of development. Cannon[21] (Table 3) and Thain[22] (Table 4) demonstrate the relationship between an organization's strategy orientation and its stage of development. The importance of relating a model to the organization's life-cycle stage relates to the scope of the process-structure-technology elements. As an organization develops, the number, dynamics and logistics concerning the planning variables that need to be considered, in the planning/modelling process, increases concurrently[23].

TABLE 2

MODELLING THE STRATEGIC PLANNING PROCESS

PROCESS STEP CAPABILITIES REQUIREMENTS

PLANNING STEP	CAPABILITIES REQUIRED
1) Plan for Planning	- strategic/systematic/ behavioral diagnosis - planning systems design
2) Analysis of Prospects	- environmental surveillance - forecasting - impact analysis
3) Setting of Objectives	- stakeholder aspiration analysis - power field analysis - participative objective setting
4) Assessing Resources	- financial resource analysis - human resource analysis
5) Competitive Strategy Analysis	- competitive trend analysis - strategy/capability formulation
6) Portfolio Analysis	- synergy analysis - vulnerability analysis - portfolio balancing - gap analysis
7) Formulating Diversification Strategy	- opportunity mapping - portfolio balancing - strategy-structure analysis - setting search/selection criteria

Table 2 (Continued)

8) Determining Corporate Capability	- corporate capability gap analysis
9) Issue Analysis	- weak signal identification - impact analysis - flexibility analysis
10) Implementation of Master Plan	- capability analysis - behavioral analysis - master planning - low resistance sequencing

TABLE 3

CANNON'S MODELLING ORGANIZATIONAL STAGES

Characteristics	Entrepreneurial (I)	Functional Development (II)	Decentralization (III)	Staff Proliferation (IV)	Recentralization (V)
Strategic decisions	Made mostly by the top person.	Made more and more by other managers.	May have loss of control.	Corporate staff assists in decision making.	Corporate management makes decisions.
Organization structure	Informal operations.	Specialization based on functions	To cope with problems of functionalization. By industry or product divisions.	Corporate staff assists the chief executive.	Similar to stage II
Communication and climate	From the leader down: informal communication	Internal communication is important but difficult		Conservatism may result in slower communication.	
Control system	Minimal need for coordination and control	Concerned with everyday situations	Problems with control.	There may be problems between line and staff.	Tightening of control

To be effective, though, modelling should also accommodate traditions, governance and management style, and the issues being negotiated by the organization and its environment. If the model fits these broader organizational patterns, it is more likely to be representative of, and accepted into, the planning process.

While it can be argued that there is neither a proven best model nor a pure model[24], it is generally accepted that there are six quasi models that dominate the literature.

TABLE 4

THAIN'S MODELLING ORGANIZATIONAL STAGES

Key Factors in the Management Process	Stage I	Stage II	Stage III
1. Size up major problems	Survival and growth, dealing with short-term operating problems	Growth, rationalization, and expansion of resources, providing for adequate attention to product problems	Trusteeship in management and investment and control of large, increasing, and diversified resources; also, important to diagnose and take action on problems at the division level
2. Objectives	Personal and subjective	Earning profits and meeting functionally oriented budgets and performance targets	ROI, profits, earnings per share
3. Strategy	Implicit and personal; exploitation of immediate opportunities seen by owner-manager	Functionally oriented moves restricted to "one-product" scope; exploitation of one basic product or service field	Growth and product diversification; exploitation of general business opportunities
4. Organization: major characteristics of the structure	One-unit, one-person show	One-unit, functionally specialized group	Multiunit, with a general staff office and decentralized operating divisions
5. (*a*) Measurement and control	Personal, subjective control based on a simple accounting system and daily communication and observation	Control grows beyond one person; assessment of functional operations is necessary; structured control systems evolve	Complex, formal system geared to measuring performance, indicating problems and opportunities, and assessing management ability of division managers
(*b*) Key performance indicators	Personal criteria, relationships with owner, operating efficiency, ability to solve operating problems	Functional and internal criteria such as sales, performance compared with the budget, size of empire, status in group, personal relationships	More impersonal application of comparisons, including items such as profits, ROI, profit-earnings ratio, sales, market share, productivity, product leadership, personnel development, employee attitudes, public responsibility
6. Reward-punishment system	Informal, personal, and subjective, used to maintain control and divide small pool of resources to provide personal incentives for key performers	More structured, usually based to a greater extent on agreed-upon policies as opposed to personal opinion and relationships	Allotment by "due process" of a wide variety of rewards and punishments on a formal and systematic basis. Companywide policies usually apply to many different classes of managers and workers, with a few major exceptions for individual cases

TABLE 5

PLANNING MODELS AND PRIMARY DIMENSIONS

	Planning Domain				*Planning Process*		
Model	*Basis Institutional Planning Unit*	*Planning Orientation*	*Future Orientation*	*Institutional Purpose/Function*	*Planning Typologies*	*Planning Dynamics*	*Bases for Participation*
Formal—Rational	Formal offices, processes, and structures	Internal, external, or both	Most likely; probable	Adaptation—goal and mission definition and change; managerial—goal achievement	Substantive and procedural; strategic and tactical	Goal-centered; problem solving; rational analysis	Planning process expertise; functional or rational representation
Organizational Development	Natural groups; needs, abilities, attitudes, and activity patterns	Internal	Achieve members' capability	Maintenance—growth and development	Procedural and tactical	Consensus centered; collaborative interaction; learning and problem solving	O.D. expertise; egalitarian community or natural democracy
Technocratic/ Empirical	Quantifiable; clients, members, and resources; tasks, functions and outcomes	Internal	Improve current condition	Managerial—improved efficiency and effectiveness	Procedural and tactical	Goal centered; problem solving; rational analysis	Planning technology expertise; technical or administrative oligarchy
Philosophical Synthesis	Member attitudes, opinions, and values; belief systems	Internal	Ideal state	Maintenance—strengthen resolve	Substantive	Consensus oriented; reasoned discussion, debate and persuasion; logic	Intellectual expertise; elite community or oligarchy
Political Advocacy	Interest groups and issues	Internal, external, or both	Feasible state	Boundary—deal with conflicts. Adaptive—accommodate new pressures	Policy and contingency	Priority oriented or pluralistic; bargaining, negotiation, coalition formation; advocacy and analysis	Interest group leadership or political organizing expertise; interest-group representation
Coordinated Anarchy	Autonomous units, groups or individuals	Internal	Achieve autonomous capability	Can vary by unit	Varies by unit	Pluralistic; loosely coordinated; varied analysis	Expertise in units activity; minimal representation by unit

Peterson[25] (Table 5) reviews these models, based on his extensive research into applications of organizational planning in the non-profit sector, especially universities, and offers his insights into the dynamics of the dominant model (the Formal-Rational Model), which we have been reviewing, when he states:

> "A rational view of the planning process is the most complete and widely recognized model of planning in higher education and in other types of organizations. It overlaps considerably with the organizational development and technocratic/empirical models and is the easiest to describe. The basic paradigm, developed in the 1950s, assumes a rational, comprehensive sequence of planning elements and includes formulation of institutional mission based on a situational appraisal, developments of goals and objectives, establishment of broad program and resource strategies, selection and design of action programs, implementation, and review. The intent is a completed cycle of activities that then acts to become self-assessing and self-correcting. The process is based on a rational assumption that mission and objectives can be clearly formulated and will guide the other cyclic activities. In effect, because subsequent cycle iterations do not begin in the same initial state, the process is a spiral rather than a repetitive cycle[26]."

Peterson further reinforces the reason for the dominance of this modelling approach, especially for higher education, by stating:

> "In applying their view of this rational paradigm, administrators and planners often attempt to prescribe the detailed activities within each element, assign responsibilities for them, and formally adopt the process. Not only is the planning process formal and rational, but there is a tendency to view the college or university as that set of formally defined offices, processes, and structures for which or to which the planning process is applied (that is, a college has a formal mission

and goal statement developed, has resources allocated and programs implemented in accordance with the plan, and is reviewed and evaluated on the basis of the performance compared to the plan). This process can be applied at the unit level (a department), to an office (the dean), or to an institutional process (admissions). The similarity to program, planning, and budgeting (PPB) and formal management by objectives (MBO) systems, which are central to many institutional planning efforts, is obvious.

The planning orientation can be either internal to the institution's needs and problems or external to changes or pressures of the environment. The primary purpose of planning can vary, depending on its orientation--an external orientation may lead to an adaptive role by revising or redefining institutional mission and goals or an internal focus will likely lead to a managerial role by seeking to improve goal achievement (efficiency or effectiveness) or programs and processes. This planning model relies on both substantive or strategic and procedural or tactical planning typologies. Because of its rational orientation, the planning focus will probably tend to be on a most likely or probable institutional future state.

The dynamics of formal-rational planning tend to be goal centered--seeking a formal goal or clear set of priorities that will guide other behavior. Decision making reflects a problem-solving mode because each planning element has its own problem focus (define mission, set goals, and so forth), and rational, analytical techniques (including behavioral and soft data) can be utilized. Because of the degree of formalization of the planning process, a high degree of expertise in the process and in analysis is typically valued. The process is applied to formal units of the institution, so functional or administrative representation is likely to be the most valued[27]."

Peterson succinctly summarizes the Formal-Rational Model's major strengths and weaknesses as:

"The advantage of this formal-rational model is the high visibility, clarity, and continuity it gives to the planning process. Because it is formalized and focused on formal units, it should not be as subject to whims of personality or internal

> political squabbles. Its comprehensive set of activities suggests it should be linked to implementation. On the assumption it includes a formal planning stage, there should be expertise for analytical and process skills required for effective planning.
>
> The disadvantages flow from the fact that the processes and governance mechanisms in most colleges and universities are often not as rational as the model presumes. Because each element in the rational cycle can be extensive, the fiscal and human resources required for the planning process are often high--particularly in smaller colleges that lack the resources. The planning elements themselves have different life cycles (budget-annual, reviews-five years, and so forth) and are difficult to coordinate. The added complexity of trying to operate this cycle at several institutional levels at once can become manageable. Because of the formalization and rationality, there may be a danger of developing a staff of planners isolated from the real activities of the institution. Finally, there is substantial incremental, and seldom fundamental, changes and that it may not be responsive enough to meet immediate pressures or entrepreneurial opportunities[28]."

Peterson's perspectives on the rational modelling process have been referred to here since he effectively integrates the concepts, that have been discussed in this review, of planning as an ongoing process activity; of the process including 'decision-set' components such as missions, goals and strategy, of the process including formulation, implementation and managing steps; of the process being applicable to a variety of contexts--here the dominant focus relating to higher education; of the process encompassing a systems perspective integrating internal and external changes and pressures; of the process integrating strategic (substantive) and tactical (procedural) elements; of the process requiring a variety of management capabilities or expertise in order

to accomplish the various planning steps, and that the process is oriented toward problem-solving and decision-making.

Within the framework of this rational model group, then, can be found a variety of model interpretations, all of which meet the general model characteristics and element constituencies detailed earlier in this overview.

Prasad presents one such integration and integrates the works of the significant writers in Figure 5[29] (which is representative of the current 'state-of-affairs' in modelling the private sector strategic planning processes combining the formulation, implementation and management process and perspectives detailed).

Kline[30] develops a strategic process model for the military sector as seen in Figure 6.

FIGURE 5

PRIVATE SECTOR STRATEGIC MANAGEMENT PROCESS MODEL

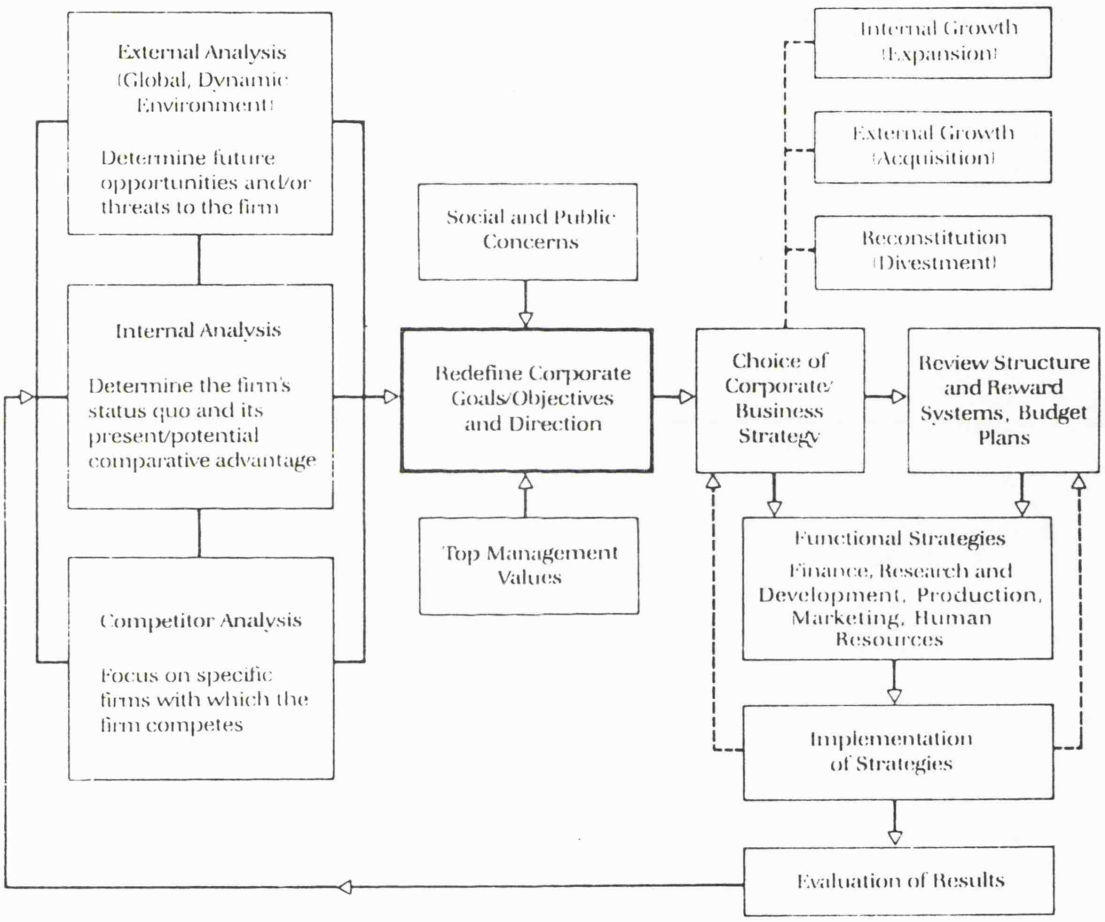
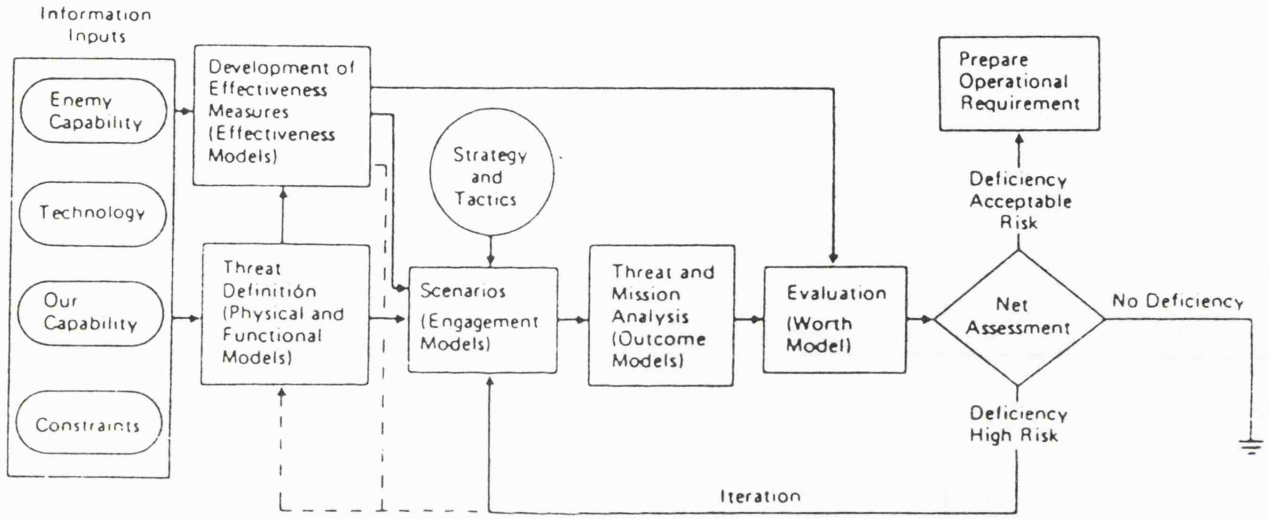


FIGURE 6

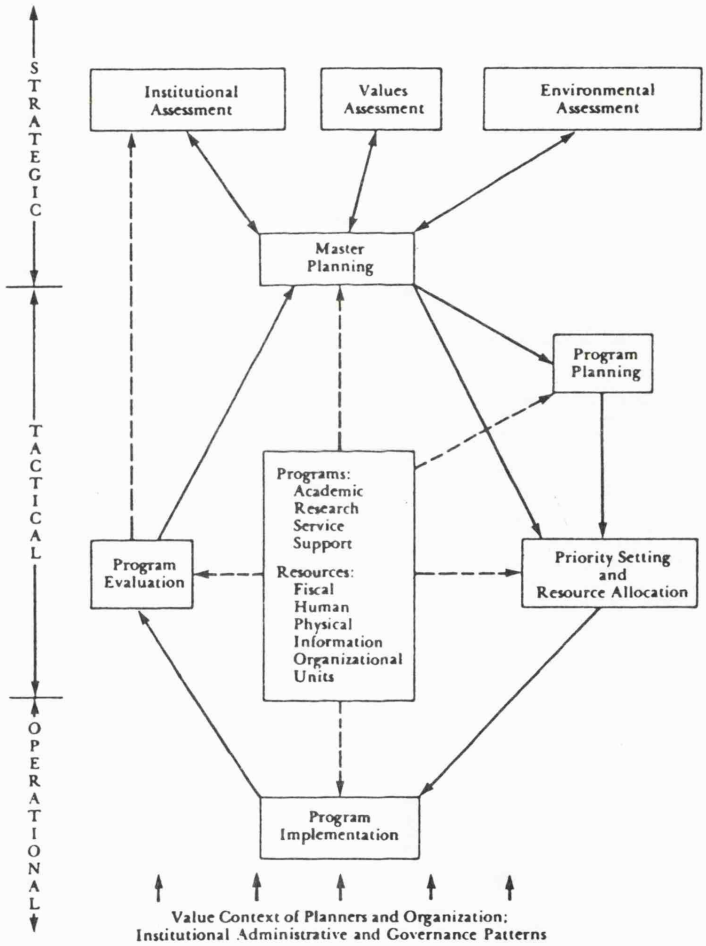
MILITARY STRATEGIC MANAGEMENT PROCESS MODEL



Example Parameters	Physical	Functional	Engagement	Outcome	Effectiveness
	Size	Range	Missions/Modes	No. of Hits/Misses	Kill Probability
	Weight	Speed	Rate of Fire	Damage	Availability
	Hardness	Maneuverability	No. of Targets	Casualty Losses	Reliability
	Radar Cross Section	Vulnerability	One-on-one	Expenditure of Consumables	Downtime
	No. and Type Weapons	Accuracy	Force Structure	No. of Targets Engaged	Survivability
			Maneuvers		
			Duration		

FIGURE 7

PETERSON'S INSTITUTIONAL STRATEGIC MANAGEMENT MODEL



Peterson strengthens his interpretation of corporate modelling into the non-profit (university) sector as depicted in the model in Figure 7[31] (the combined 'top-down' and 'bottom-up' features of this model shall be discussed later).

While the labels, used to represent the various planning process steps, may vary in these models of the rational strategic management process, they are all consistent with the aforementioned systems perspective and definitions of strategic planning and modelling. More importantly, though, they again demonstrate the applicability of modelling the strategic planning and management process in a variety of contexts.

Box and Johnson[32] further demonstrate the applicability of the strategic modelling process steps in the non-profit sector. Table 6 summarizes their research survey into the application of the various strategic planning process steps within universities.

TABLE 6

STRATEGIC MANAGEMENT PROCESS

Process Orientation	Number of Respondents	Percent
Environmental analysis	139	81.8
Assessment of institutional strengths and limitations	158	92.9
Formulation of assumptions	139	81.8
Development of criteria	93	54.7
Development of objectives and goals	146	85.9
Development of strategies for attaining objectives and goals	61	35.9
Development of the long-range and short-range plans	112	65.9
Evaluation of performance	97	57.1

Although the research in Table 6 says little about the effect that these activities have on the operation of the institutions, it is interesting to note that the majority are involved in the 'decision set' activities mentioned at the beginning of this overview.

While there can be little doubt as to the dominance of the Formal-Rational Model in both the literature and the field, it is worth briefly discussing some of the models within the Technocratic/Empirical Model framework that are starting to gain popularity because:

"... the technocratic/empirical approach tends to adopt a rational process model of planning and a formal hierarchical view of an institution. It adopts rational dynamics and tends to be goal centered or concerned with more formalized priorities. The approach to decision making reflects a problem-solving mode that emphasizes rational analysis of the problems and alternatives.

The technocratic/empirical model emphasizes planning techniques and is not in a pure sense a process model. However, because of the recent emphasis on planning techniques, it is a useful pseudomodel to consider. It tends to rely on rational process notions (usually systems analysis), but the techniques generally deal with only limited segments of the planning process (for example, Delphi techniques for goal setting of forecasting for resource flows) .... Environmental scanning, trend analysis, forecasting, simulation modelling, market research, consumer or institutional needs assessment, scenario development, Delphi, budget analysis, cost-benefit techniques, evaluation models, and a myriad of data collection, analysis, and statistical techniques are but a few of the arsenal of techniques .... More recent large-scale, state-level data bases, awareness of data on environmental trends, market assessment techniques, and such have focused more externally and potentially play an adaptive function--assessing the appropriateness of mission and goals, a strategic planning concern ....

The advantages of this approach are its greater emphasis on precision and analysis, on the preparation of more quantifiable and rational justification for plans, and on conveying an image of sophisticated planning and greater accountability. The development of complex analytical techniques (such as resource simulation models) has also provided administrators and planners with greater understanding of the institution.

The disadvantages are often the inability of planners with this emphasis to deal with the many nonrational dimensions of planning (the value-laden choices or the unresolvable conflicts, for instance) and such staff planners' isolation from administrative and governance channels, which renders their work less useful. The fragmented nature of many planning techniques and the tendency to expect too much from an empirical technique often deters the development of a more comprehensive planning process (for example, resource simulations

> do not set the priorities or make the decisions about where to reduce resources). Finally, the expense of sophisticated information systems, computer facilities, and analytical staff often may not be justified in smaller colleges or in larger institutions where less-sophisticated techniques might suffice[33]."

In Table 7, Bracker[34] summarizes some of the research conducted using these empirical models.

There are many popular Technocratic/Empirical models. Figure 8[35] illustrates one, the Boston Consulting Group Product Portfolio (BCG). The Boston Consulting Group Project (BCG) is the simplest matrix approach to categorizing products, product lines or entire businesses. This technique provides a graphic portrayal of an organization's products or business units in relation to each other, allows the user to assess a product's position, and ensures that resources are allocated most efficiently. The BCG matrix can be used at a variety of levels in the organization to formulate corporate strategy, for separate business units, and for individual products or product lines.

TABLE 7

CHRONOLOGY OF EMPIRICAL MODELS RESEARCH

Date	Author	Explanation of Work
1967	Mueller	A 2SLS regression model of strategic resource allocation to investigate the funds-allocation process in a number of firms.
1968	Boston Consulting Group	A process model dealing with cost/volume relationships of a variety of products. A number of strategic conclusions regarding cost, volume, market share, and profitability are developed.
1972	Elliott	A strategic analysis using a simultaneous equation model of the major elements of corporate performance.
1973	MacIntosh, Tsurumi, and Tsurumi	A 2SLS regression model linking the largest Canadian meat packer to a model of the Canadian economy for the purpose of environmental perception, analysis, and determining optimal strategic action.
1974	Schoeffler, Buzzell, and Heany	A study of the strategic relationship between market share and other factors and profitability (PIMS).
1975	Buzzell, Gale, and Sultan	A study of the strategic relationship between market share and other factors and profitability (PIMS).
1975	Kirchhoff	An analysis of internal factors contributing to return on investment; uses an SPSS stepwise regression model.
1976	Schendel, Patton, and Riggs	A strategic OLS regression model of corporate turnaround strategies.
1976	Schendel and Patton	A 3SLS regression model of corporate strategy to overcome the multiple-goal problem and to capture complex patterns of the strategic, operating, and environmental variables that influence goal attainment.
1978	Bass	A strategic model formulated for consumer durables specifying the price level for each period of a product's life that will maximize the firm's discounted cash flow. Merges an earlier Bass demand model with the Boston Consulting Group's experience curve.
1978	Hatten, Schendel, and Cooper	An OLS regression model of the U.S. brewing industry relating strategic (controllable) and environmental (noncontrollable) variables to a firm's return on equity.

FIGURE 8

BOSTON CONSULTING GROUP

PRODUCT PORTFOLIO (BCG)

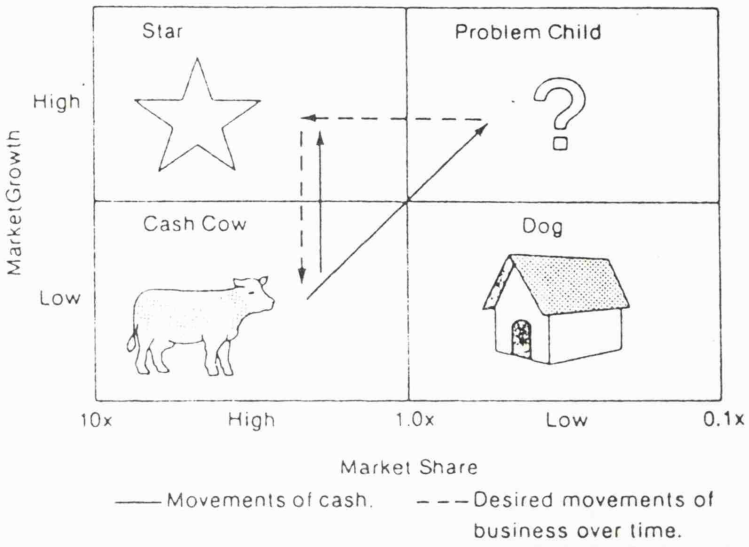


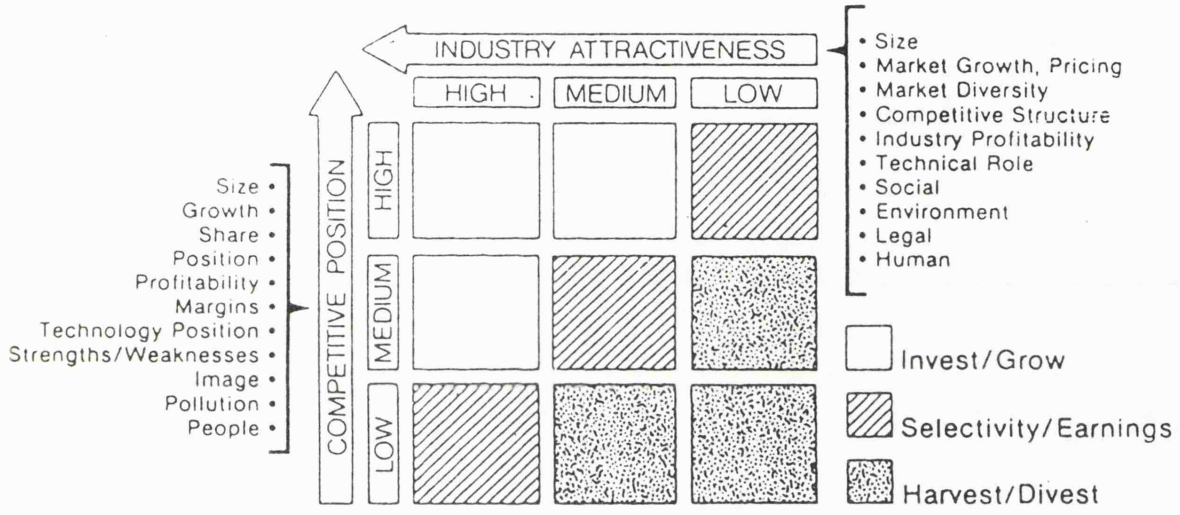
Figure 9[36] illustrates another popular model, the GE/ McKinsey Industry Attractiveness - Business Strengths Array (GE). This is an analytical portfolio technique based on a 3 x 3 matrix similar to the BCG but with a more comprehensive view of the industry, the business environment, and the company's own strengths. This approach to product portfolio analysis replaces the BCG axis of market share with competitive position and the dimension growth rate with industry attractiveness. Less importance is attached to lowered unit costs and greater weight is given to other aspects that distinguish

companies. Moreover, the elements contributing to the attractiveness of an industry go considerably beyond the growth rate of the market.

FIGURE 9

GE/McKINSEY INDUSTRY ATTRACTIVENESS -

BUSINESS STRENGTHS ARRAY (GE)



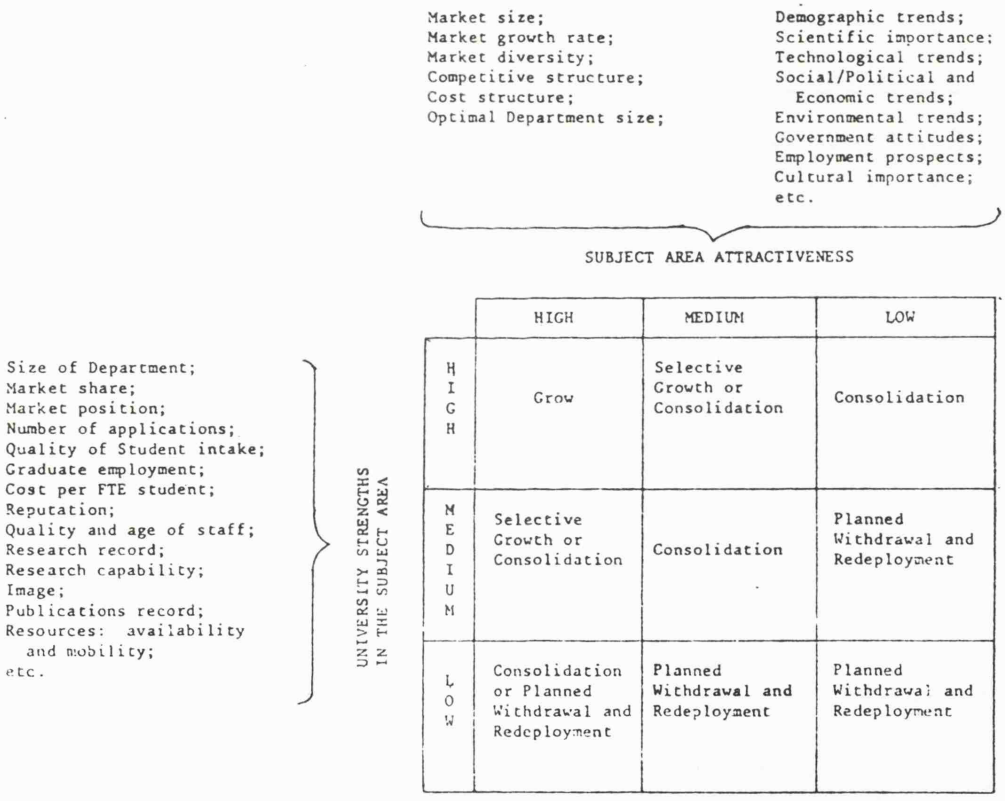
One noted researcher has utilized the GE matrix for university planning. Sizer's[37] matrix is seen in Figure 10.

While these types of empirical models have some general applications potential, they are specifically oriented for evaluating organizational units (as seen in Figure 10)--as opposed to the entire organization which is the focus of the rational model. This difference in perspective, between

the rational and empirical models, relates to the difference in planning orientation. The first is utilized for the strategic perspective, encompassing the Process-Structure-Technology elements. The second merely compliments this. The first involves managing the continuous formulation and implementation process; the second focuses more on formulation.

FIGURE 10

SIZER'S UNIVERSITY DIRECTIONAL POLICY MATRIX



Summary

The purpose of Part B of the review was to identify the dominant models that represent the strategic planning process--strategy formulation, implementation, and management. It has been shown that the Formal-Rational Models to a great extent, and the Technocratic/Empirical Models to a lesser extent, are representative of the 'state-of-affairs' in the strategic planning literature. And this model orientation is entirely consistent with the conclusions drawn from, and the analysis of, the strategic planning studies in the first part of this overview.

It has also been shown that the modelling process has equal applicability in both profit and non-profit sectors. Most importantly, though, it should now be obvious that an organization could enhance both its knowledge of and use of strategic planning tools and concepts by either developing or adopting a planning model that effectively represents the internal and external variables that impact on it.

Using the five elements, common to the strategy works of Liddel-Hart, Ansoff, Andrews and Michael (Part A) and applying them to the modelling process, they can be restated as:

1. strategy modelling is oriented around formulating, implementing and managing the strategic planning process;
2. the strategic modelling process utilizes value judgements;

3. the strategic modelling process incorporates assessing and generating change;

4. utilizing the modelled strategic planning process involves resource mobilization relative to preferred futures, and

5. the strategic modelling process embodies the systems perspective--the whole situation and environment (both internal and external).

The significance of environmental factors in relation to the strategic planning process will now be reviewed.

"If a man take no thought about what is distant,
he will find sorrow near at hand"--

Confucius, 551-497 B.C.

Part C - Environmental Planning

The significance of considering the organization's environment within the context of strategic planning, was highlighted throughout Part A as part of the 'systems' perspective in strategic planning; as part of the military, business and futures strategy scope, and as a fundamental part of the 'second generation' state of strategic planning.

The environment was further emphasized in Part B as a critical dimension within the 'strategic decision set'; as starting point in the strategy formulation process (and consequently an essential element within the total strategy formulation-implementation-management process) for the Formal-Rational Models, and as an integral component of the Empirical Models.

In both Parts A and B, the importance of monitoring the relationships between public, private and not-for-profit organizations and their environments was seen as having evolved along with the nature and dynamics of planning.

Dirsmith and Covaleski offer an historical perspective, in their research, concerning this strategy-environment relationship:

> "An organization's environment has long been recognized as important in formulating strategy. Environment has been defined as those external factors which impact on the functioning of the organization as well as on which the organization has impact. Contained within this definition is the more traditional view that the organization is dependent on the environment, and hence must continually adapt its goals, action strategies, structure, etc., in response to changes in its surroundings (see Dil, 1958; Thompson and McEwen, 1958; Burns and Stalker, 1961; Emery and Trist, 1965; Lawrence and Lorsch, 1967, Duncan, 1972; Steiner and Miner, 1977; Hofer and Schendel, 1978). Also contained within this definition is the more recent view that the organization influences the environment through such processes as attending to certain parts of the perceived environment (Pfeffer and Salancik, 1978), enactment (Weick, 1969, 1977) and proactment (Miller and Friesen, 1978). From these two views, in turn, has emerged the blended belief that organizations must be engaged in a continuing process of interaction with their environments through exchange of inputs and outputs, such as physical and financial resources, and information (Katz and Kahn, 1966; Pfeffer and Salancik, 1978; Even and Klemm, 1980; Zeitz, 1980; Aharoni, Maimon and Segeo, 1981; Lenz, 1981; Mintzberg, 1981)[1]."

Recognizing the need for an ongoing process of environmental interaction with the organization, they go on to establish a framework which continually integrates external environmental signals into the internal strategy process.

Based on extensive private sector experience, in both national and multinational organizations, Wilson emphasizes his conviction about the linkage between environmental scanning and strategic planning when he states:

> "The primary purpose of strategic planning, as I see it, is to optimize the "fit" between the business and its current and future environment--to enable the business to operate with maximum congruence, and minimum friction, with the changing

expectations and conditions of an uncertain world. By the term 'environmental scanning' I mean to encompass both the monitoring of current events in the business environment and the forecasting of future trends. And by 'environment' I mean the totality of the external conditions and trends in which the business lives and moves and has its being--the market and competitive situation, economic and technological trends and (increasingly) social and political developments.

> From the above assertation about the purpose of strategic planning, two further statements derive:
>
> 1. Environmental scanning of the total business environment becomes an essential and integral part of strategic planning. It sets up the contextual framework within which planning can then logically proceed.
>
> 2. A business strategy that is adequate to meet the totality of these changing conditions must, in truth, be a strategy for the total business. That is, it should encompass not merely a market strategy, but also a technology strategy, a human resources strategy, a financial strategy, a public policy/government relations strategy, and so on.
>
> If we put these two statements together, we can see the emergence of a systems approach to planning, i.e., viewing the environment as a whole and as integral to planning, and planning for the business as a total system[2]."

Here, Wilson has conveniently integrated both the aforementioned notions of the systems approach and a future orientation in an effort to reduce the impact of environmental 'uncertainty'.

Denning suggests that the evolution of a 'deliberate' organizational strategy, to take advantage of environmental opportunities (or gaps), basically involves three interrelated activities--strategic environmental appraisal; strategic

corporate appraisal, and formulation, testing and execution of the strategic plan[3]. However, Denning also notes there may be several problems associated with environmental appraisal and trying to generate adequate systematic information for it due to the volatile nature of the environments[4].

Drucker describes this volatility as 'environmental turbulence' and identifies several reasons why organizations are experiencing this--and consequently why they cannot ignore it:

1. rapid inflation distorts and misinforms a manager on how the enterprise is doing;
2. the structure and dynamics of the population are changing erratically and unpredictably;
3. new modes of economic integration are appearing as goods are produced transnationally, that is, as more goods have components produced in several countries;
4. the labour force is fragmented into 'labour forces', each with its own needs, expectations and performance characteristics, and
5. business and other institutions are politicized forcing top managers to spend more time on relations with external constituencies[5].

To manage these issues, McCaskey stresses the need for a new type of creative strategist who can manage the consequent ambiguity, develop mechanisms to 'buffer certainty', distinguish the important 'contradictory tensions' in the environment, and who can effectively function in a world of 'complex and fuzzy boundaries'[6].

Given the myriad changes constantly occurring within the environments which impact on the organization, Denning develops a list of questions to help guide the strategists through the problems they may encounter in analyzing the environmental sectors:

1. Within what broad structure can events, trends and factors in the environment be considered?
2. How can a particular company determine which of those factors are relevant to its strategic planning?
3. What methods should be used for gathering information in the areas which are considered relevant?
4. What methods of forecasting from this information are available which would be helpful?
5. Is there any way in which the costs of obtaining this information, processing it, and making forecasts from it, can be compared with the benefits obtained from having it?[7]

These questions have obvious applicability also for the military, political and future types of research (detailed in Part A) since it was seen that both the awareness of external forces and the availability of information concerning these forces was necessary for the development of effective strategies. Interestingly, the importance of this information perspective also can be viewed from a historical perspective.

Just as planning can be carried out on three separate levels (strategic-tactical-operational), information utilized at these levels also varies (as seen in Table 1, Part A). And just as strategic planning can be traced back to military and political origins, much of the background material upon

which the study of the acquisition and use of strategic information in modern organizations is based, is derived also from military and political affairs. It is interesting to note that studies of the politics of ancient Greece and the military of ancient China reveals that the leaders were very interested in any information concerning the political (and ultimately military) intentions of their neighbours. Both Liddell-Hart[8] and Starr[9] show that matters such as danger of war, the nature of alliances, internal divisions in competing states, and the characteristics of opposing leaders, were considered to be of great importance to those involved in setting the objectives and course of action of a particular state.

Reflecting a similar background and interest in political and military affairs, Kent labelled this sort of information as 'strategic intelligence'[10]. Wilensky used the term 'organizational intelligence'[11] in the context of government and industrial information. Radford further develops the terminology and utilizes the term 'strategic information'[12] to stress the use of the information for the strategic planning process and to emphasize the distinction between strategic (external) and tactical or operational (internal) information.

The work of King and Cleland strengthens the integration of environmental information (and the terminology) via the development of an 'intelligence gathering network'[13]. They were among the first management researchers to distinguish

between information, relating to any data concerning environmental variables, and intelligence, relating to specific facts of answers to specific questions concerning signals in the environment.

They argued that environmental intelligence is essential because:

> "An organization's strategic planning effort is aimed at providing a sense of direction when approaching an uncertain future, the nature of which will only in part reflect the organization's own goals and choices. Forces in the environment--everything outside the organization itself--will also play an important role in determining the organization's future, so that effective strategic planning must operate to permit the organization to assess the environment, to forecast it, to develop strategies for taking advantage of it and, to the degree possible, to alter it[14]."

Again, their focus is consistent with the systems perspective, and they utilize the essence of the gap analysis, relative to environmental opportunities, as detailed in Part B.

Denning utilizes the information perspective and develops a framework for matching information sources and techniques for analyzing and utilizing the information, with those environmental sectors he feels impact organizational strategy (Table 1[15]).

TABLE 1

TECHNIQUES FOR ENVIRONMENTAL APPRAISAL

	Sources of Information	Techniques
Economic forecasts (a) National economy (b) Sector forecasts	(i) Government and private forecasts.	(a) Critical appreciation of published forecasts. (b) Development of models or relationships for sector forecasts.
	(ii) Industry association, government, private forecasts.	(c) Input-output analysis.
	(iii) Market research.	(d) Large number of quantitative techniques.
Technological forecasts	(i) Technical intelligence service reports.	(a) Demand and conditional demand analyses.
	(ii) Technical market research.	(b) Opportunity identification techniques
	(iii) Research into competitors' developments.	(c) Theoretical limits testing. (d) Parameter analysis. (e) Various systems analysis methods. (f) Discipline reviews. (g) Expert opinion.
Sociological forecasts	Wide variety of sources of data, including government reports, educational forecasts, population forecasts, regional forecasts, skilled labour forecasts, institutional changes, etc.	(a) National models such as built by Battelle (unlikely to be done in any one corporation). (b) Expert opinion.
Political forecasts	Political intelligence services and government reports.	Expert opinion.
Forecasting competitors' actions	Any intelligence about competitors.	Any relevant technique to give information from intelligence.

Diffenbach has found that of those environmental scanning techniques utilized by large industrial organizations, some dominated the usage patterns (as seen in Table 2[16]).

TABLE 2

ENVIRONMENTAL SCANNING TECHNIQUES UTILIZATION

Technique	Percentage of companies reporting use of techniques*
Expert Opinion	86
Trend extrapolation	83
Alternate scenarios	68
Single scenarios	55
Simulation models	55
Brainstorming	45
Causal models	32
Delphi projections	29
Cross-impact analysis	27
Input-output analysis	26
Exponential forecasting	21
Single monitoring	12
Relevance trees	6
Morphological analysis	5

*Percentages based on 66 company responses.

Anguilar's research also emphasized the concern for information gathering research relative to external environments[17]. His research demonstrated the lack of any formalized and systematic approach to scanning activities, as seen in Table 3[18] which briefly highlights the variety of scanning modes and typical information sources found in his manufacuring company sample.

TABLE 3

MODES OF SCANNING ENVIRONMENTAL FACTORS

Undirected viewing	General exposure with no specific purpose (newspapers, general journals, magazines)
Conditioned viewing	Directed exposure to a more or less clearly identified area of information plus readiness to assume it may be important (trade journals, lunching in the City)
Informal search	Limited and unstructured effort to obtain specific information (telephoning small group of contacts)
Formal search	Deliberate effort to receive particular information (market survey, economic forecasting model, needs research, acquisition search).

Based on their research, and using Anguilar's research as the methodological base, Glueck and Jauch have found 'interesting' relationships between the various groups of strategists and modes of environmental analysis and diagnosis performed. Table 4[19] summarizes their findings and supports the aforementioned works of Anguilar, Denning and Diffenbach.

Table 4
STRATEGISTS AND THEIR MODES OF ENVIRONMENTAL ANALYSIS AND DIAGNOSIS

Strategists	Analysis: Verbal Search	Analysis: Documentary Search	Analysis: Formal Forecasts and Studies	Analysis: MIS	Diagnosis and Decision Making
Top managers	Regularly	Rarely	Rarely	Rarely	Performs
Corporate planners	Regularly	Occassionally	Occassionally	Rarely	Advises as requested
Board of Directors	Occassionally	Rarely	Rarely	Rarely	Occassionally advises
Consultants	Rarely	Occassionally	Rarely	NA	Occasionally hired to advise

What emerges from these works is evidence that the strategist must not only define the environmental sectors influencing the organization, but he/she must also identify sources of information on these sectors; select and analyze the information; diagnose the implications of the analysis and then utilize this information within the organization's planning process.

In relation to which environmental sector(s) are seen as having more importance or influence on organizations, Table 5[20-25] summarizes several studies of environmental sectors. The competitor segment is seen as the most crucial in four of the six studies (and second in importance in the Glueck Study).

TABLE 5

MOST IMPORTANT ENVIRONMENTAL SECTORS

Sector	Aguilar, N = 41; Keegan, N = 13;	Collings, N = 49	Wall, N = 1211	Glueck, N = 358	Bibeault, N = 81
Socioeconomic and government	15%	25%	Least important	Index 71.6	67%
Supplier and technological	10%	15%	Next most important	Index 32.6	7%
Competitor	75%	60%	Most important	Index 68.0	26%

The importance of formalizing an approach for staying in touch with environmental trends, and consequent organizational issues, is highlighted by Brown, in his work for the Conference Board (cited in Part A) on issues management[26]. Utilizing the work of Denning and Wilson (mentioned earlier in this overview), and drawing from examples of issues programs in large national and multinational organizations, he reinforces the need for environmental issues management to survey the changes in the environment. In this context, surveillance

of an environment relates to the detecting, analyzing and appraising of its constituent issues and trends. An issue is seen as a condition or pressure, either internal or external to the organization that if it continues, will have a significant impact on the organization or its future interests. A trend is seen as an environmental force that may or may not develop into an issue.

The benefits of such issues programs, as viewed by Brown, are that they -

1. improve long-range strategic planning by providing insight into risks and opportunities for corporate development;
2. improve lobbying capacity--by being better informed, company representatives enhance credibility; and by anticipating legislative and regulatory issues, they can participate in shaping bills and regulations;
3. prepare CEO for more active role in external affairs;
4. help company decide which public policy issues it should take a stand on and what those stands should be;
5. sensitize management at all levels to the importance of external affairs;
6. help shape internal policies relating to employees by increasing awareness of social trends, demographic trends, developments in human relations in other countries, and so on;
7. help shape a company's policies toward its stakeholders outside the company--particularly the communities in which its plants are located, and
8. help companies avoid "getting hit on our blind side", "getting caught with our pants down." Most companies have been afflicted in recent years with unexpected developments that have in some way or another cost them money, time or both[27].

Brown goes on to suggest that environmental issues and trends need to be classified in order to permit intelligent dialogue about them and in order to determine:

- what issues and trends are being followed and evaluated;
- what additional issues and trends ought to be evaluated--and by whom, and
- who should do what about developing and carrying out company responses to particular issues[28].

Due to the variety of environmental segments that can be identified, the need for an environmental classification framework is also forwarded by Selig, in his research on 25 United States based multinational organizations[29]. Because of the multi-dimensional nature of the increased number of environments that a multinational organization must accommodate within its strategic planning process, Selig argues that in order to reduce the complexities of obtaining and utilizing multiple environments information, a consistent environments classification process must be operationalized[30].

From the literature, it is possible to develop several classification categories for environments, trends and issues, including:

1. <u>Content or Inherent Character</u>

   - within the literature, the environments are segmented into a variety of sectors, such as:

   a) Three Sectors

      - Economic, Market, Technological[31]

b) Four Sectors

- Economic, Political, Social, Technological[32]

c) Five Sectors

- Competitor, Government, Socioeconomic, Supplier, Technological[33-38]
- Economic, Natural, Political, Social and Cultural, Technological[39]

d) Six Sectors

- Competitive, Customer, Economic, Political and Regulatory, Social, Technological[40]

e) Eight Sectors

- Demographic, Economic, Government, International, Public Attitudes, Resources, Technology, Values and Life Styles[41]
- Competitor, Demographic, Economic, Geographic, Government, Social, Supplier, Technological[42].

f) Combination of Sector Frameworks (Macro and Micro)

- researchers, such as Wheelen[43] and Porter[44] prefer to organize the sectors by distinguishing between Task and Societal Environments. Here the Task Environment includes those elements that directly affect the organization and the Societal Environment includes those forces that indirectly touch on the organization's activities, but can influence some of the decisions.

(Figure 1[45] illustrates the relationship between strategy formulation and the Task (seven segments) and Societal (four segments) Environments. Table 6[46] provides the insight into the level of issue activity that can be monitored under some of the segment headings.)

- the importance of a societal orientation for environmental scanning is implied in the systems perspective and is further reinforced by the works of the European Institute for Advanced Studies in Management and the European Foundation for Management Development[47]; Global Risk Assessments, Inc.[48], and the work of leading scholars such as Ansoff, Bosman, and Storm[49].

FIGURE 1

WHEELEN'S KEY ENVIRONMENTAL SEGMENTS

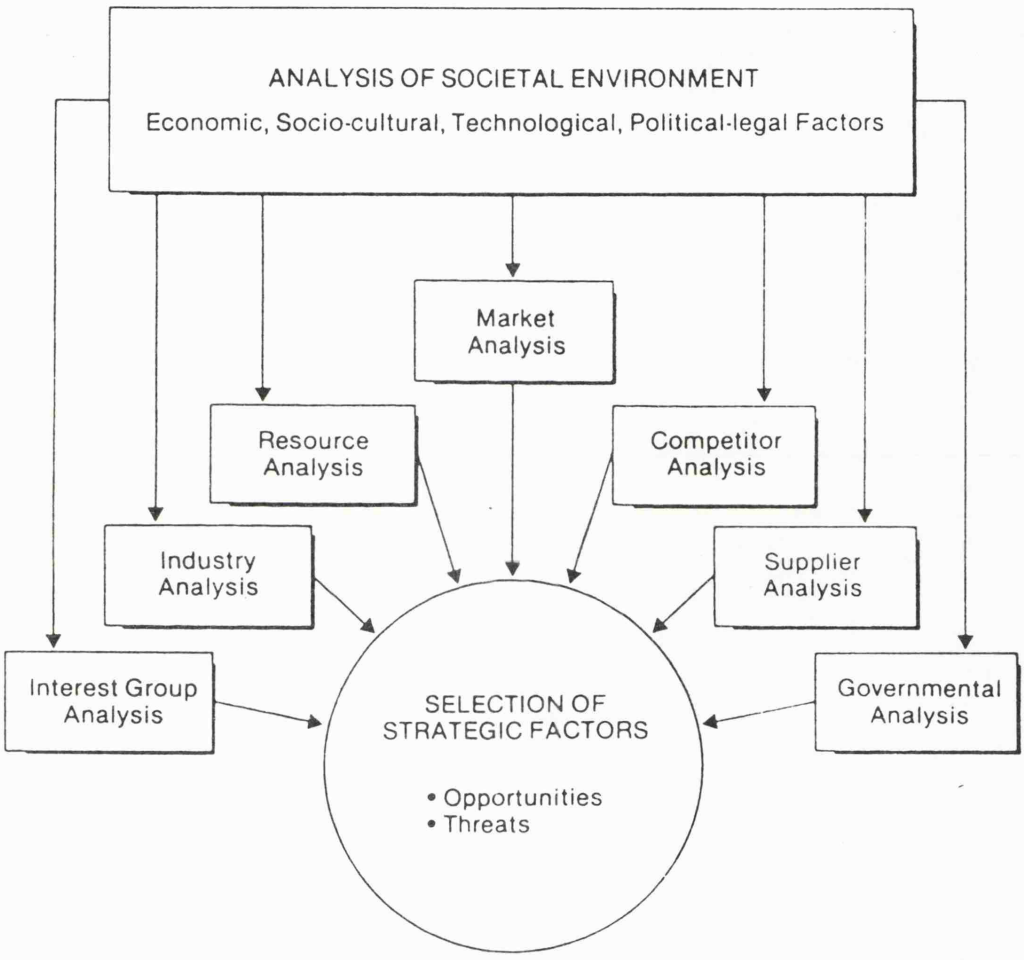


TABLE 6

PORTER'S SOCIETAL ENVIRONMENT VARIABLES

SOCIO-CULTURAL	ECONOMIC	TECHNOLOGICAL	POLITICAL-LEGAL
Life-style changes.	GNP Trends.	Total federal spending for R&D.	Antitrust regulations.
Career expectations.	Interest rates.	Total industry spending for R&D.	Environmental protection laws.
Consumer activism.	Money supply.	Focus of technological efforts.	Tax laws.
Rate of family formation.	Inflation rates.	Patent protection.	Special incentives.
Growth rate of population.	Unemployment levels.	New products.	Foreign trade regulations.
Age distribution of population.	Wage/Price controls.	New developments in technology transfer from lab to marketplace.	Attitudes towards foreign companies.
Regional shifts in population.	Devaluation/ revaluation.	Productivity improvements through automation.	Laws on hiring and promotion.
Life expectancies.	Energy availability and cost.		Stability of government.
Birth rates.			

2. Timing or Stage

- within the literature, environmental issues and trends can be classified as to where they are in their life-cycle stage, such as:

a) Strategic Issues

- critical for longer-term strategic planning orientation[50-51]

b) Emerging Issues

- definition and contending positions are evolving and legislation or regulation is likely within a moving timeframe of three years[52,53]

c) Current Issues

- usually moves towards resolution; usually in the legislative or regulatory process[54,55]

3. Degree of Impact

- within the literature, three distinctions can be found relative to ranking the significance of environmental issues:

a) organizations can distinguish between issues that have a direct impact versus an indirect impact[56],

b) organizations can distinguish between issues that can be acted upon (manageable) versus those that cannot (unmanageable)[57], and

c) organizations can distinguish between policy issues (influencing the organization) and public-domain issues (influencing the organization's constituent environments)[58].

4. Focus of Impact

- within the literature, eight classifications, relative to who or what will be affected, can be distinguished (examples are bracketed):

a) Global (limits to growth debate)[59],

b) International (fluctuations in relative values of national currencies)[60],

c) National (rights for minorities, handicapped)[61],

d) Business (corporate governance)[62],

e) Industry (deregulation laws)[63],

f) Company (issues requiring corporate attention)[64],

g) Company Component (functional unit - marketing has been receiving considerable attention in the literature)[65-68],

h) Stakeholder Group (suppliers, customers, employees, shareholders)[69],

Recent research has grouped the environments into four activity cells--the simple, stable environment; the complex, stable environment; the simple, dynamic environment, and the complex, dynamic environment. The research of Godwilla,

Meinhart and Warde utilize this classification to study the ways in which 300 Chief Executive Officers in industrial corporations in Canada and the United States identified and analyzed the nature of their strategic environments, their strategic opportunities and problems, and how they formulated strategies in light of these[70]. From this environmental scanning, strategic issues were developed which were then incorporated into a 'strategic decision set' (outlined in Part B). Their research produced a list of strategic issues that included:

- future environments;
- future needs;
- future nature of businesses;
- future challenges (competition, etc.);
- future organizational characteristics;
- future product lines;
- future product-market scopes;
- future relationships with other relevant environments;
- future major objectives and goals;
- current major problems;
- future major problems;
- the patterns of changes in environments;
- the direction of changes in technology;
- the substituability of its current product lines;
- over-reliance on supplier sources;
- future organizational structure and climate needs;
- form of future organization for effective implementation;
- future financial needs, and
- future training and development needs[71].

Table 7 summarizes the experiences of these Chief Executives in the various environmental cells.

Table 7
Strategy Experience for Different Environments

	SIMPLE	COMPLEX
STABLE	Cell 1: Simple, Stable The Chief Executive experienced: -least difficulty in analyzing the nature of the environment -least difficulty in predicting the general pattern of future environments -least difficulty in accomplishing the firms objectives -greatest clarity in deciding upon the effective corporate strategy -greatest confidence in managing the relevant environments	Cell 2: Complex, Stable The Chief Executive experienced: -some difficulty in analyzing the nature of the environment -some difficulty in predicting the general pattern of future environments -some difficulty in accomplishing the firms objectives -moderate clarity in deciding upon the effective corporate strategy -moderate confidence in managing the relevant environments
UNSTABLE	Cell 3: Simple, Unstable The Chief Executive experienced: -moderate difficulty in analyzing the nature of the environment -moderate difficulty in predicting the general pattern of future environments -moderate difficulty in accomplishing the firms objectives -little clarity in deciding upon the effective corporate strategy -little confidence in managing the relevant environments	Cell 4: Complex, Unstable The Chief Executive experienced: -greatest difficulty in analyzing the nature of the environment -greatest difficulty in predicting the general pattern of future environments -greatest difficulty in accomplishing the firms objectives -least clarity in deciding upon the effective corporate strategy -little confidence in managing the relevant environments

Godwilla, et al. stress that Chief Executive Officers must not only be aware of the environment cell within which they operate, but more importantly, they must recognize when their cell changes because corporate strategies were found to have an external orientation. In references to critical success factors for the Chief Executive Officers, they conclude:

> "They need to engage in a continuous and thorough situation audit analysis for correctly identifying the particular system of interrelationships between their firm and its strategic environments. This is even more critical for firms operating in dynamic, complex, erratic and turbulent environments[72]."

Concurrently, several researchers have tried to establish the 'state-of-the-art' of applied environmental scanning. McLeod and Rogers found that the majority (77%) of the 111 Marketing Vice-Presidents in Fortune 500 Corporations contacted, were utilizing environmental intelligence, on an ongoing basis, for strategy development[73]. Also, from his survey of scanning in 12 American and European multinationals, Thomas concluded:

> "In an overall sense, the present study tends to substantiate one of the conventional assumptions regarding scanning for planning while suggesting the need for alterations in certain others. Thus, with respect to the context of scanning, it is apparent that the corporate giant does typically scan social, political (including regulatory), economic and technological conditions at the national level, looking about ten years out into the future. At the same time, the prevailing stereotype of environmental scanning as a marginal ivory tower exercise required modification. As we have seen, wide angle scanning can be found even at the operational planning level. The rationale for scanning

> or developing its scanning competence. Finally, in order to capture the essence of the scanning process, one has to move away from the conventional micro view of a single individual carrying out this function, to a macro one which is organic (if not fully organized yet) in character[74]."

In their research on measuring organizational strategies, Snow and Hambrick concluded by demonstrating that those organizations, from their sample of 200 in ten different industries, who developed and maintained an 'alignment' with their environment out-performed their competitors[75]. Their research also stressed the need for strategic planning activities to focus on balancing the internal and external orientations, relative to the dynamics of the organization's environments. This is a similar perspective to that of Mintzberg's concept of 'metastrategy'--an underlying, enduring orientation that an organization has in relation to its environment[76].

Lientz and Chen integrated second generation environmental scanning with management information systems (MIS) development[77]. They demonstrate how organizations with formalized (and computerized) MIS service departments tend to integrate issues management throughout their strategic planning process[78]. This would stand to reason given the magnitude of data a highly developed computer systems can manage[79].

As a result of increased information and awareness of an organization's environments, Wolfe found this increased knowledge to be positively correlated to profitability[80].

Grinyer and Norburn also found in their study of 21 companies in the United Kingdom, that companies that gathered and used more environmental information had a higher financial performance than those that used less[81].

The research of Schoorman, Bazerman and Atkin demonstrated how some organizations utilized 'interlocking directorates' to reduce environmental uncertainty[82]. These organizations chose as directors, directors of other organizations from both Task and Societal (or general) Environments, resulting in four perceived benefits:

1. horizontal co-ordination linking competitors;
2. vertical co-ordination linking the organization with suppliers of inputs or receivers of outputs;
3. expertise in the form of personal qualities and information brought, and
4. reputation resulting from the 'outside' director acting as a signaling device to the other environmental constituents[83].

Steiner and Kunin's ongoing research on the major activities of Chief Executive Officers (CEO) reinforces the aforementioned work of McCaskey and Godwilla, et al. His current research demonstrates that paralleling the increasing expenditure of time by the typical CEO, is the emergence of two new underlying strategies. One is a strategy of active CEO involvement in external processes, and the other is a strategy of positive response to legitimate constituent interests[84].

There is also evidence, though, that potential resistance to environmental scanning may be encountered.

While Diffenbach's longitudinal study of 90 Fortune 500 Industrials reinforced both the use and benefits of strategic scanning in 66% of the organization, he also discovered six deterrents to scanning. These included:

1. Interpretation - the problem is that of interpreting the results of environmental analysis into specific impacts on the organizations businesses and into specific responses to be made by the businesses. Included is the problem of the results not being in sufficiently precise form;

2. Inaccuracy/uncertainty - the problem is that either the output of the environmental analysis is inaccruate or too uncertain to be taken seriously or both;

3. Short-term orientation - the problem is that the preoccupation with short-term matters preempts attention to environmental analysis;

4. Lack of acceptance - the problem is that environmental analysis is not accepted within the company;

5. Diversified businesses - the problem is that diversified businesses mean multiple relevant environments which make environmental analysis too complex, and

6. Misperceptions - the problem is one of executives having a narrow, limited or invalid perception of the external business environment[85].

Diffenbach also discovered that organizations' environmental scanning evolved through two generations--from appreciation to analysis and monitoring (the first generation), to application (the current second generation state). Interestingly, these generations parallel those of the planning generations (detailed in Part A). He argues that the more successful organizations

in his study had moved past the 'appreciation' stage, while the most successful were involved in second generation environmental scanning. Most importantly, though, he stressed it was critical for an organization both to recognize the phase it was in and to move quickly towards the application phase[86].

Within the non-profit sector (specifically universities), much attention has also been recently given to both the need for and use of both strategic and environmental planning. In reviewing and comparing the works of the Conference Board (North America); the Organization for Economic and Cultural Development (OECD), and the Council on Educational Research and Innovation (CERI), Hodgkinson reinforces the 'appreciation' felt by university management researchers for the myriad external forces they must contend with and plan for[87].

Lockwood effectively highlights the major challenges, facing universities, posed by their external environments, including:

1. the challenge of a reduction in resources and more specific instructions about how they must be utilized;
2. the challenge to be efficient in other ways than resource allocation (such as maintenance of quality and of organizational vitality);
3. the challenge of servicing both traditional and new markets, and
4. the challenge of living with uncertainty and being more responsive to external needs--adjusting to change rather than being adjusted by change[88].

There are obvious similarities between these external challenges facing this non-profit sector and those found in the private sector--specifically the last three challenges mentioned above. Unfortunately, as will be discussed in Part D, the university sector is characterized mostly by organizations which seem to still be within the first generation of both strategic and environmental planning in Britain[89], Europe[90], and North America[91].

From the aforementioned evidence developed within this overview, it is now possible to highlight the major results of the findings. These include:

- the primary method for scanning the environment is verbal;
- the higher a strategist is in the organization, the more the verbal method is used;
- the more contacts sought, the more effective the analysis;
- the more aspects of the factor on which information is sought, the more effective the analysis;
- the network of human sources used for scanning is primarily inside the organization in the case of larger organizations and outside in the case of smaller organizations;
- in larger organizations, when information is received from outside human contacts, it is normally unsolicited and highly valued. Inside information is normally solicited from another person;
- personal and professional contacts are the primary sources sought out. Customer and competitor sources are next most sought. Least sought are supplier contracts and channel contracts;
- written or documentary information is also used, but much less frequently by strategists;

- documentary information is used by middle and lower managers somewhat more than by strategists, but even they use primarily verbal sources;

- when written sources are used by strategists, they tend to be general information sources like The Wall Street Journal and The Times;

- relatively little use is made of written studies, research reports, and meetings for environmental search, but their use is increasing. They are used more in stable industries than in dynamic industries;

- formal forecasting, when used at all, is viewed with skepticism by many strategists;

- modeling is viewed even more skeptically by strategists than is forecasting;

- MIS is rarely used by strategists for environmental analysis;

- many organizations do not appear to have a continual environmental scanning activity, and

- the structure of the organization and management practices can inhibit or enhance the usefulness of environmental data gathering and assessment. For instance, sales personnel can be critical sources of competitor information if they are trained properly and integrated well into the structure of the firm.

Summary

The purpose of this overview was to highlight the development of environmental planning, its relationship to the strategic planning process, and its application in both theory and practice.

Windsor and Greanias suggest that the growing role of the non-market environments "augurs a dramatic reorientation of the corporate planning process[92]." Their current research succinctly consolidates both the theoretical and applied evidence from the field of environmental planning into two hypotheses "about which there is general agreement[93]."

> "First, to be effective in any context, corporate planning requires the definite and sustained support of a top management convinced in the value of strategic assessment and forecasting procedures . . . (secondly) corporate planning will tend to reflect the complexity of both the organization itself and its external environment. Thus, relationships between management, the organization and the environment determine the type of planning found in an organization[94]."

Glueck and Jauch conclude their extensive analysis of the environmental literature with 11 propositions that effectively summarize the evidence within this overview[95]. These include:

1. a firm whose strategy fits the needs of its environment will be more effective;
2. the major cause of growth, decline and other large-scale changes in firms are factors in the environment, not internal developments;

3. most top managers gather information about the environment verbally. Written information, forecasting, and MIS are not significant sources of information for analyses by top managers but their use may be increasing;

4. the more information contact strategists seeks, the better the environmental analysis. In larger organizations, the contacts are primarily internal. In smaller organizations, the contacts are normally external;

5. the more sectors and the more factors that are analyzed, the more effective is the environmental analysis;

6. the more dependent the enterprise is on a sector, the more it will focus its environmental analysis on that sector of the environment;

7. the more developed the sector, the more a firm will focus on that sector of the environment;

8. the more hostile the sector, the more vital the diagnosis of that sector;

9. the more volatile and uncertain the sector, the more the diagnosis will focus on that sector;

10. the greater the time pressure and cost of search, the less likely it is that in-depth diagnosis will result, and

11. the greater the complexity of the environment, the more sectors managers must focus on[96].

There can be little doubt as to the significance of environmental planning relative to the strategic planning process--specifically, the formulation stage. The development of both strategic and environmental planning into the second generation phase affords organizations the means with which to interact and proact, rather than react to their respective systems of societal and task environments.

Integrating the five summary elements, developed at the ends of Part A and Part B, with the evidence in Part C, they can be restated as:

1. environmental planning is a continuous and evolving decision-making and problem-solving process interrelated within the strategy formulation process and model;

2. environmental planning involves value judgements;

3. environmental planning involves assessing and generating change;

4. environmental planning necessitates resource mobilization relative to preferred futures, and

5. environmental planning embodies the systems perspective --the whole situation and environments (internal, task and societal).

While the focus of the overview in Parts A, B, and C has been primarily on private sector organizations, Part D will reinforce the applicability of strategic and environmental planning specifically for university strategists.

"The old order changeth, yielding place to new."

Tennyson - The Passing of Arthur

Part D - Environmental and Strategic Planning: Relevance for University Management

Background

Throughout the first three parts of this review, it has been demonstrated that both the concepts and use of environmental and strategic planning has relevance for a variety of organizational applications. While both the literature and empirical research bases tend to focus more on the profit sectors, increasing attention is being given to the investigation of the suitability and applicability of environmental and strategic planning for both the non-profit sector in general, and universities in specific.

Just as the art and science of management has gained theoretical and applied momentum primarily over the last half century, the need for a more systematic and effective management planning orientation for non-profit organizations has also been gaining both impetus and credibility.

Initially, management researchers eluded only peripherally to the fact that non-profit organizations could benefit from the tools and techniques required to successfully manage profit-making companies. During the first half of this century, only a handful of writers eluded to the connection.

Fayol detailed the now classical management functions of planning, organization, command, coordination, and control and suggested these functions were essential in all types of organizations[1]. Knight argued that the management of both risk and uncertainty was critical for a variety of organizational settings[2]. Both Tead[3] and McKinnsey[4] stressed how the leadership, in any organizations, had to continually monitor the changing conditions effecting its operation and adjust policies accordingly. Concurrently, Gulick and Urwick argued that the science of administration needed to be taught, utilized and developed in both profit and non-profit organizations[5].

Both Urwick[6] and Dwight[7] reinforced the need for 'administrative' skills in the organizations providing both products and services.

There was also evidence to support the need for effective non-profit organizational management within the economics literature of the first half of this century. Schumpeter assumed that only through efficient utilization of resources in both profit and non-profit sectors could planned economic development be achieved[8].

The 1950s saw a surge in the literature focusing primarily on profit sector management. The works of Barnard[9], Drucker[10], Leavitt[11], and March and Simon[12] clearly established management as both an art and science and profoundly influenced the significant writers in the next two decades. Interestingly,

there seems to be a decade time-lag in the literature from the time profit sector research is published, to the time it is utilized for the non-profit sector.

During this period of first generation planning (referred to in Part A), the focus of management, in the higher education arena, began to develop.

In response to the coming of what Williams and Blackstone called the

> "... world wide phenomenon in which the number of students increased from 11 million in 1960 to 27 million in 1970 (UNESCO 1975) ... a big increase was inevitable in the demand for higher education[13]",

Hogarth became among the first to identify a universal crisis in higher education. This crisis resulted from a lack of planning for manpower, facilities and resources, and a lack of administrative expertise to manage this upcoming change[14].

Due to the lack of empirical research in the area of planning for universities, the Candils[15] conducted an exploratory survey and discovered a wide range of practices characterized by what can be called short-term orientations; local geographical orientations; a lack of management control measures, and what Thomas has called 'top-down planning'[16].

The 1960s saw an unpredecented period of growth in profit and non-profit, and public and private sectors. The works of Chandler[17], Cyert and March[18], Anthony[19], Ansoff[20],

and Steiner[21] focused on understanding, managing and controlling profit sector organizations, and the strategy concept was now being introduced and integrated into the management literature.

Steiner's view of top management's functions, during this period, is exemplary:

> "The job of a top manager essentially concerns the way in which his total organization reacts to its environment to achieve the objectives set for the organization. His concern is with the totality of the enterprise and how it operates in its environment[22]."

For the university sector, though, the focus was aimed on primarily trying to cope with operationalizing the growth in both new institutions and expansion of present facilities and resources. Both government and university leaders were faced with dealing with what Patterson and Longworth termed 'plans for a new departure in higher education'[23].

Both the 'Robbins era'[24] in Britain and the 'Federal period'[25] in Canada were anomolous examples of both government and university systems trying to peacefully coordinate and accommodate growth in what Jencks and Riseman termed 'the academic revolution'[26]. It was a period where the strategic skills required to manage this growth were desperately needed, yet were only being developed in both the management literature and practice. The dominant planning focus tended to evolve around the budget process, and Hartley's seminal work on orienting university planning around primarily the annual

budget[27], demonstrated the lack of integrating the profit sector literature into the university management literature.

By the end of the 1960s and start of the next decade, the realities of the plight facing universities, as a consequence of under-managed growth, developed in the literature. It was also during this period that first-generation university management/administration, per se, became both accepted and formalized.

Knowles' momentus 'Handbook of College and University Administration'[28] was the first major North-American document to develop a functional categorization for the administrative areas of a university--physical plant, planning relations, non-academic personnel, business and financial administration.

In Britain, the seminal classic 'Planning and Management in Universities', by Fielden and Lockwood[29], integrated not only the operational functions found in the Knowles work, but more importantly, was the first work to attempt to integrate the strategy concept into the university planning process.

These researchers (and practitioners) also stressed the importance of staying in touch with the information concerning planning and developments in other countries and developed a detailed listing of organizations, recent research and bibliographies that could aid the university strategists[30]. Throughout this work we see the concepts

of future orientation, the external environment, and strategic planning as an ongoing process (linked to the governments quinquennial cycle) being developed. Table 1[31] summarizes the Fielden and Lockwood planning framework.

While this work exemplified the state-of-the-art in university management, it still did not have the depth nor dynamics of the major works of the profit-sector writers, of this period, such as Lawrence and Lorsch[32], Ackoff[33], Ansoff and Hayes[34], and Eliasson[35].

TABLE 1

PLANNING ELEMENTS AND CONCEPTS

PLANNING ELEMENTS (Timescale)	STRATEGIC (5 - 10 year)	OPERATIONAL (2 - 5 year)	BUDGET (1 year)
CONTENT EXAMPLES	major academic developments, rate of growth, phased building programme, etc.	student numbers by courses and subjects, major curriculum changes, space allocation projections, research priorities, etc.	allocation of monies for the year for agreed functions, allocation of manpower budgets, student number targets, accommodation; minor curricula, and other academic changes.
DESCRIPTIVE AIDS (examples)	Planning Guide for units	Planning Guide for units, Guidebook of Financial Procedures, curriculum change procedures, research grant procedures.	Planning Guide for units, Guidebook of Financial Procedures, descriptions of Budgetary system, admissions planning, etc.
INFORMATION AIDS (examples)	Strategic Planning Assumptions (e.g. site development plan, rate of growth, arts science balance). Results of internal evaluation exercises or special surveys. National reports and research findings	Operational Planning Assumptions (e.g. monies available in each year, projections of allocation of staff and student numbers). Statistics on applicant demand, research loads, space utilisation, unit costs etc. National reports/U.G.C. guidance etc.	Budgetary assumptions (e.g. monies and resources available and the provisional internal allocation). Current year's accounts. Space register. Critical indicator profiles.
CONTROL/PROGRESS REPORTS (examples)	Capital development project controls and reports. Controls on creation of new units or centres.	Curriculum change and student selection of options reports. Reports on major research projects or centres. Equipment purchases and utilisation controls.	Regular financial control statements to units. Admissions progress reports. Manpower control reports. Space booking controls.

University management was only beginning to gain acceptance as a valid area for professional research and training, whereas profit-sector management research, development and training had achieved full momentum. Evidence that university management/plannig was becoming important could also be seen from a more macro perspective. It was during this period that six organizations, concerned with university management, were started, including:

1. I.I.E.P. - International Institute for Educational Planning (1963)
2. S.R.H.E. - Society for Research into Higher Education (1963)
3. E.R.I.C. - Educational Resources Information Center (1965)
4. C.C.E.A. - Commonwealth Council for Educational Administration (1970)
5. C.E.R.I. - Centre for Educational Research and Innovation (1968)
6. C.E.R.I. - O.E.C.D. - C.E.R.I. becomes fully established with the Education Committee of the Organization for Economic Cooperation and Development (1971)

Concurrently, in North America, the Carnegie Commission on Higher Education began to publish the results of its commissioned research into the state of university governance[36], fiscal affairs[37], and academic affairs[38].

Second-Generation Development

The 1973/74 oil-based world recession effected both profit and non-profit sectors and provided added impetus for integrating strategic planning processes into these organizations to better anticipate and prepare for such environmental impacts.

Elaisson adequately addressed two major problems faced by senior management trying to deal with environmental forces of this magnitude:

> "First are external relationships to the environment, which are a matter of high quality, relevant information and good judgements. Second, there is the internal problem of coordinating, guiding and motivating activities of the various parts of the organization[39]."

As Balderston related, these problems were becoming especially critical for senior university managers who were now faced with managing the issues of rising faculty and staff unionism (and fixed costs); increasing overhead costs coupled with projected decreases in enrollment (and subsequent revenues), all at a time when governments in general, and educational coordinating agencies in specific were beginning to augment their control and regulation of traditional financial assistance[40].

In response to what Chiet labelled 'the New Depression in Higher Education'[41], both profit and non-profit sector researchers increased the research focus of the development

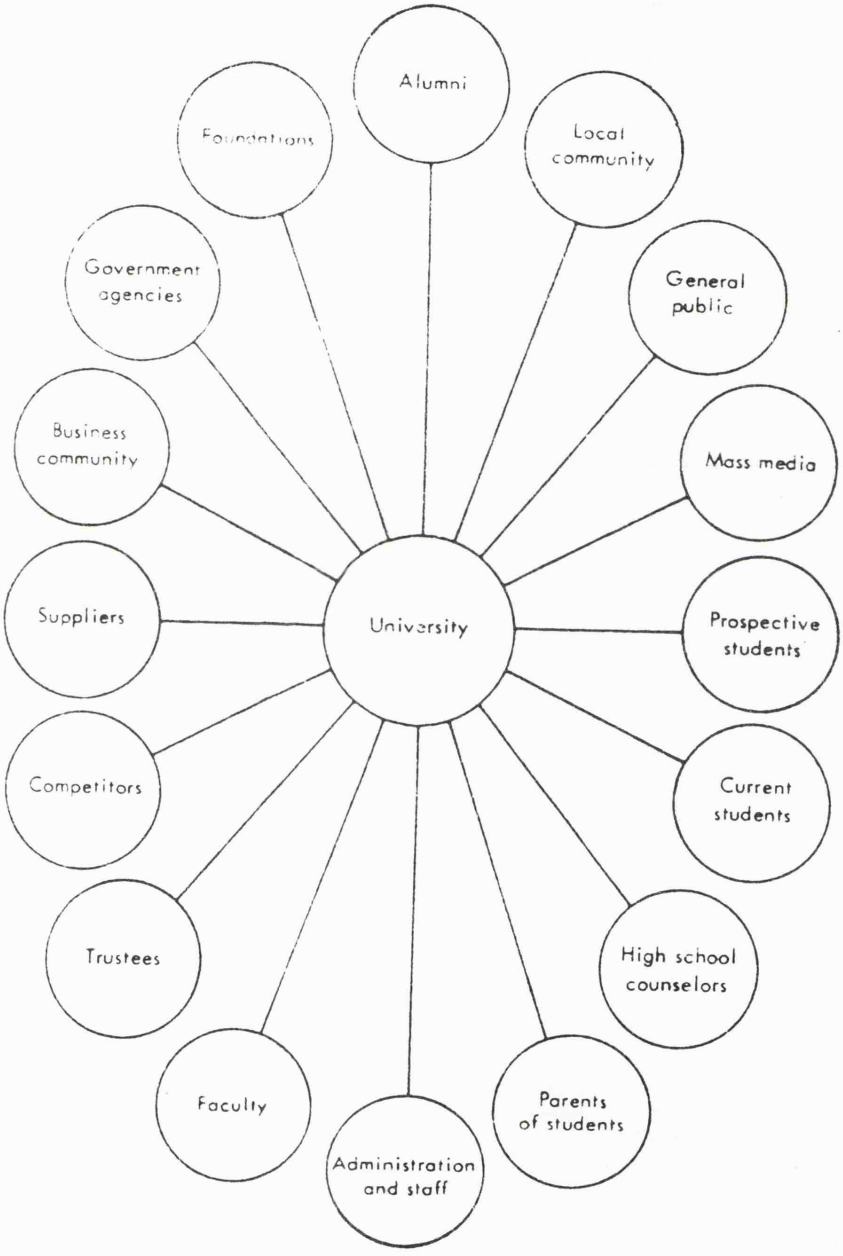
and utilization of management tools and concepts suitable for the universities. This would be a critical success factor for what Hodgkinson termed, "... a time of developing new and innovative institutions of higher education[42]" required to effectively deal with these issues.

Anthony and Herslinger focused primarily on the need for non-profit organizations to establish more rigorous internal financial control systems to facilitate efficient management of funds that were now coming under increasing external audit review[43].

Kotler reinforced the need for innovation in universities and argued they should develop a strategic marketing orientation towards its many publics in order to target and take advantage of opportunities external to the universities[44]. Figure 1[45] presents his perspective of the many publics, both internal and external, that would impact on this marketing strategy.

FIGURE 1

THE UNIVERSITY AND ITS PUBLICS



Utilizing this marketing strategy perspective, Kerr argued that:

> "The evidence seems to indicate that many practices of the educational field contributed to its own troubles. The industry grew unresponsive to its markets. There were demands in the market place that were not being supplied by the industry; and there were suppliers in the industry who were trying to sell products that were not in demand by the market .... Such a market calls for adjustment in the form of product innovation, demand simulation, or both. The slowness of these adjustments is a major factor in the current crisis of education[46]."

Kerr described the magnitude of this educational 'industry' during the mid 1970s as

> "... one of the largest service industries in the United States. It employs three million people in over 120,000 establishments serving over 60 million customers at an annual cost of $74 billion, or 7 per cent of the Gross National Product[47]."

Based on the lack of empirical evidence, and his research of the literature on planning in the administrative sciences, Hansen suggested that Canadian universities needed to test the applicability, for university planning, of

> "... socio-political-ideological environmental factors, value systems, territorial feelings, organization, status of planning and planning unit, qualifications of people, in addition to the technical elements of planning such as systems analysis, cost benefit analysis and program budgeting which make up so much of the recent literature on planning[48]."

Similarly, in Britain, Doyle and Lynch developed and stressed the need for utilization of a strategic planning

process in universities as the most effective means of meeting their objectives in their increasingly hostile environments[49].

They highlight four reasons to explain why universities in general failed to adopt the type of strategic planning processes found in both the profit-sector organizations and literature:

> "1. the rapid growth of demand for university places and the ease with which they acquired financial resources until recently, provided little incentive to devote energies to strategic planning;
>
> 2. planning focuses on the redirection of resources from areas of low productivity to areas of potential high performance. But, there are organizational inflexibilities within universities which make such resource transfers especially difficult;
>
> 3. there is an unmistakable 'production orientation' among academics--a feeling that, as far as education goes, the professor knows better than the student what he should learn, and how he should learn it. The idea of gearing resources to the needs of the market is foreign to the culture of the university, and
>
> 4. universities confuse planning with budgeting. This is largely the result of the quinquennial planning system imposed upon the universities by the government. This system focuses on cash budgets and requires no appraisal of university performance or assessment of the long term demand for its success[30]."

Doyle and Lynch stressed the need to formalize the strategic planning process in universities by establishing a senior level planning department charged with the responsibility of directing the process of:

a) systematic research into the external environment with the aims of identifying and analyzing the major current problems and future opportunities presented by environmental change;

b) assessing the current areas of comparative academic strength and weakness;

c) developing meaningful performance objectives in terms of growth, quality, staff, innovation and social responsibilities, in the light of the university's strengths and weaknesses and the changing external environment;

d) recommending strategies to achieve these objectives. Such strategies would centre around modifying existing courses, establishing new ones and eliminating declining ones, and

e) translating the agreed strategic plan into action, monitoring performance and triggering modifications when environmental developments make this necessary[51].

The magnitude of the challenges facing universities was further highlighted in the twelve-country study of national systems of higher education carried out between 1975 and 1977 by the International Council for Educational Development. In summarizing the new Canadian 'era of provincial systems', Sheffield, et al. concluded that:

> "... planning for higher education in Canada is inadequate at all levels--institutional, provincial, national. Such information systems as exist tend to be both complex and burdensome. Projections, e.g., of enrollment, are undertaken spasmodically rather than regularly. Too much planning is for the local scene and the immediate future[52]."

Relating to the British study, Becher, et al. suggested that university officials need to monitor external issues and the changes occurring in the power relationships between

the Department of Education and Science (DES) and the University Grants Committee (UGC) especially in light of

> "... some current political interest in Britain in bringing all institutions of higher education under a single management system ...[53]."

Concurrently, the DES published a major discussion document, "Higher Education into the 1980s"[54] listing principal issues it 'encouraged' university officials to also consider. Table 2[55] lists these issues and provides insightful evidence to the diverse nature of the environmental elements it was attempting to deal with, and the time-frame it was considering.

TABLE 2

DES PLANNING ISSUES

1. Are the projections of student numbers based on reasonable assumptions?

2. Could higher education institutions contract their provision as sharply in the early 1990s as these projections imply?

3. Does it make sense for the higher education system to expand to: meet the full peak in projected student numbers?

4. Would it be wiser to aim at a lower peak provision to avoid difficulties of subsequent contraction?

5. Should the Robbins principle continue to guide the provision of higher education?

6. What scope is there for encouraging students to embark either on shorter full-time courses or on part-time courses?

7. Would it be feasible and desirable to develop deferred entry to higher education on a sufficient scale to make a major contribution to easing the problems of the 1980s?

8. What scope is there for reducing higher education cost per student by improved use of resources without reducing the quality of educational provision?

9. How far could the problems of the 1980s peak be reduced by limiting resource commitments to the short term through the use of temporary staff and accommodation?

10. During the peak years would such temporary expedients as longer terms or summer terms be acceptable to the higher education institutions?

11. What measures might be found to extend participation on a broader social basis so as to avert a demographically-linked decline in student numbers at the end of the 1980s?

12. What would be the advantages and disadvantages of using resources no longer required for young home entrants to extend educational opportunities for people in employment?

13. What would be the implications of any changes in the present pattern of higher education for the structure of student awards and of higher education courses and qualifications?

In his paper, 'The Management of Universities of Constraint or Decreasing Size', Cyert suggests that in spite of the innumerous challenges facing universities, strategic planning offers universities the opportunity for developing alternative options other than unmanaged 'survival at any cost'[56]. Cyert concludes by stressing that university presidents throughout the Western World must take the initiative and

> "... must take an analytic approach in hope of developing policies that will counteract the debilitating tendencies of contraction. New ways of thinking about management of universities must be developed if universities are going to play the critical role for our society in the future as they have in the past[57]."

In an effort to ease the burden facing universities during the upcoming decade, the need for a sharing of research and experiences in university management, was stressed by Jochimsen:

> "Agreed, each country has to find its own solutions to challenges, both present and future, against the background of its individual structure, which has evolved in the course of time. In this context, however, knowledge and evaluation of experience gained by other countries is indispensable, since in the industrialized countries of the Western World, the problems encountered in the education systems and the requirements made of the latter as a result of the general development of the world economy, of technological progress and of demographic and societal development, are similar. This will apply in the future, even more than in the past[58]."

Similarly, Balderston echoes the need for strategic planning in universities to coordinate the transition form 'expansion to stabilization'[59].

Balderston highlights four transitions facing universities--the first three providing an environmental backdrop for the fourth. These are:

1. changing numbers (scarcities in some areas and over supplies in others) of young people, of students, and of jobs;

2. the shift, among the goals served by education, toward Western democracy's agenda of opportunity and equality, as against traditional academic values of individual attainment and the 'aristocracy of merit' with their implications of elitism;

3. growing significance of national and sectoral framework planning relative to the initiatives of the institutions;

4. shifts in the goals of institutional administration and leadership from expansion to stabilization and program selection and from growing resources to austerity[60].

Caston also points to this need for strategic planning and monitoring external environments in his comparative research between planning, government and administration in California and Britain. He states that

> "An academic system can only maintain quality if it provides opportunities for instant action to take advantage of unanticipated opportunities ...[61]."

By the end of the last decade, and the start of the current one, the 1980s, the momentum had increased to the scale where the literature and research, dealing with strategic planning for universities, was being increasingly reviewed in both management and education, journals, texts, and dissertations.

Karol and Ginsburg suggested that this increased attention on the strategic management of higher education was a basic response to both a lack of research and the pressures from higher education coordinating commissions, university presidents, education and business management researchers, and graduate students, all of who were interested

> "... on bringing increasing effectiveness and efficiency, on bringing to bear a managerial approach with emphasis on planning, managing human resources, financing, innovation, successful representation, organizing, coordination, and budgeting[62]."

Karol and Ginsburg concluded that only via a dynamic marketing strategy would universities be able to target and select external opportunities and

> "... to thrive despite the more difficult climate, but success will require thoughtfulness, innovation, initiative, and adaptability[63]."

Horner's exemplary work on strategic planning for higher education in the United States began to specifically develop guidelines, to be followed, and questions, to be addressed, for university administrators interested in attempting to implement strategic planning[64].

Horner developed a model of strategic planning, Figure 2[65], that utilizes rigorous environmental analysis, on both a macro and micro environmental level, as the focal point for the process which is

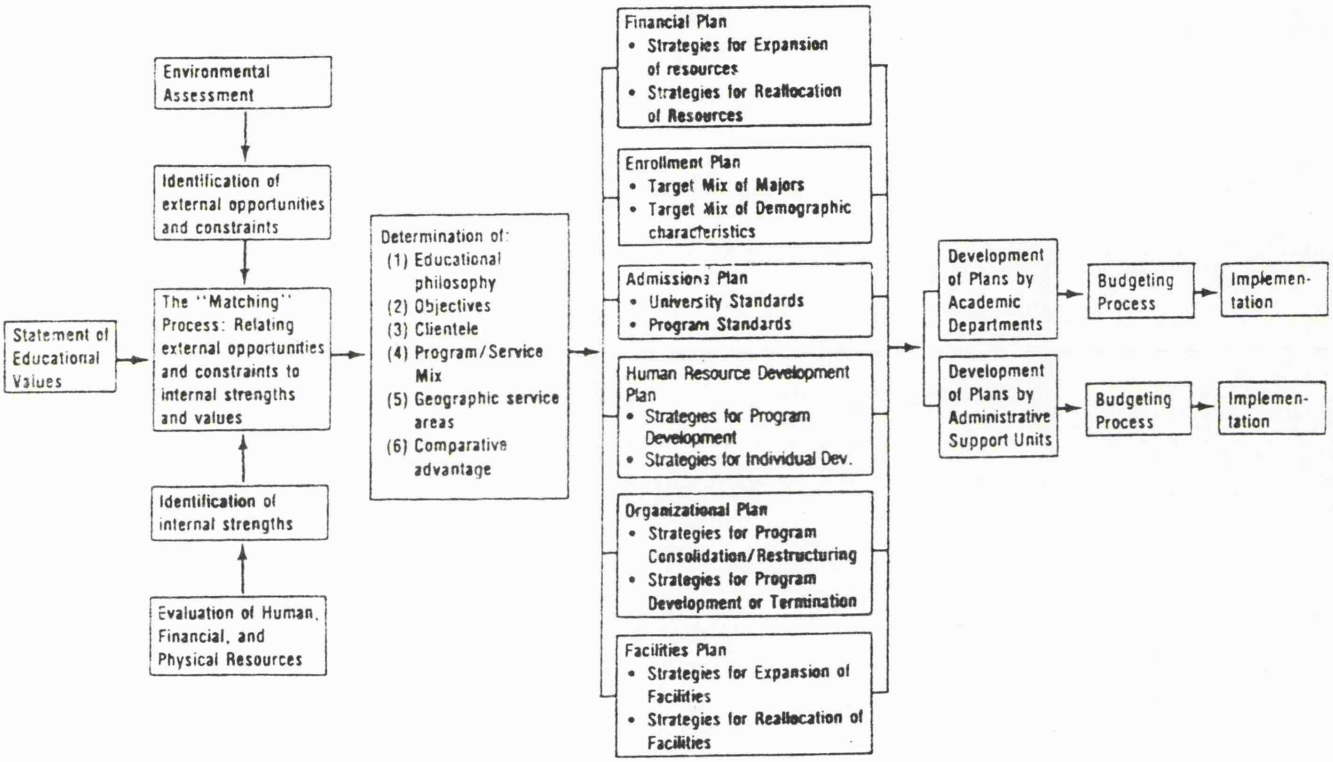
> "... necessary to identify which parts of the environment are relevant to focus for subsequent analyses[66]."

As well, opportunity (or gap) analysis (as detailed in Parts A, B) are also utilized. Unfortunately, the 'ongoing' nature of strategic planning is underscored (note the lack of an activity loop in Figure 2), but this reflects Horner's preoccupation with first establishing such a process in a university setting. He concludes that the most significant reason for adopting such a strategic planning process, relates to the major benefits that it offers:

1. a systematic, holistic approach to planning and managing;
2. an end product (action) orientation;
3. an explicit operating framework;
4. an exposure of needs;
5. an effective integration of hierarchical objectives/goals, and
6. an effective internal and external political mechanism[67].

FIGURE 2

A MODEL OF STRATEGIC PLANNING FOR A UNIVERSITY



Based on his extensive experience in corporate and academic management research in Britain and Europe, Thomas succinctly related the "relevance of key constituents in modern corporate strategic planning to policy determination[68]." Thomas is one of the first scholars in this field to realistically identify the internal and external political realities within which university policy makers function. He identifies the gaps in logic and research made by "... over-optimistic centralized planning dreams of a later wave of enthusiasts[69]", those writers who suggest that strategic planning will cure all the problems facing universities. As with Horner, Thomas develops specific terms of reference and guidelines for university executives in Britain, in critical areas such as mission, "... the type of institution a given university seeks to become[70]"; the mix of disciplines relative to job market, student interest and research project/priorities, and the minimum organizational size "... which is regarded as 'viable' in terms of common user facilities ...[71]."

Thomas suggests that a balance of top-down and bottom-up interaction in the ongoing planning process is essential for identifying and operationalizing initiatives and policy decisions in areas such as:

1. the degree of concentration/diversification of activities with one university;
2. possible new groupings/joint ventures within a given university;

3. restructuring with joint activities with another institution or transfer to or from it to achieve a single viable unit, and

4. more fundamental longer term changes to replace declining conventional undergraduate numbers by 'continuing education' of adults, a major change of policy having extensive implications for the character of, as well as the methods used in, university teaching[72].

In order to operationalize such initiatives, or opportunity gaps, Thomas concludes by highlighting four astute requirements of utilizing a university strategic planning process:

1. the need for a formalized long-term policy review body, with academics dominating the contribution to it;

2. the need for a longer term appraisal of their activities yielding a planning process (versus a single plan);

3. the need to develop and sustain the planning process throughout the university hierarchy, and

4. the need to not only monitor the external environment, but to also influence it by advice and continual interaction[73].

Concurrently, in Canada, Moore and Charach echo Thomas' concern for more interaction between universities and their 'negotiated' environments in order to develop effective strategies by forecasting and planning for student, faculty, physical and financial resources[74].

In their major work, summarizing the recent comparative research and literature on 'improving academic management', Jedamus, Peterson and Associates demonstrated the level of interest and concern for strategic planning in North

America[75]. Figure 3[76] and Figure 4[77] adequately represent the focus of this work and provides insight into the more detailed level of strategy articulation that was appearing in the literature. In Figure 3 we now see that the strategy process is being considered on an ongoing basis, and the model identifies the various constituent interests, and their function, in the process missing from Horner's model (Figure 1). Figure 4 details the hierarchical and informational elements and relationships--the critical elements in any strategic planning process--but now being identified and utilized specifically for universities.

FIGURE 3

A UNIVERSITY STRATEGIC PLANNING MODEL

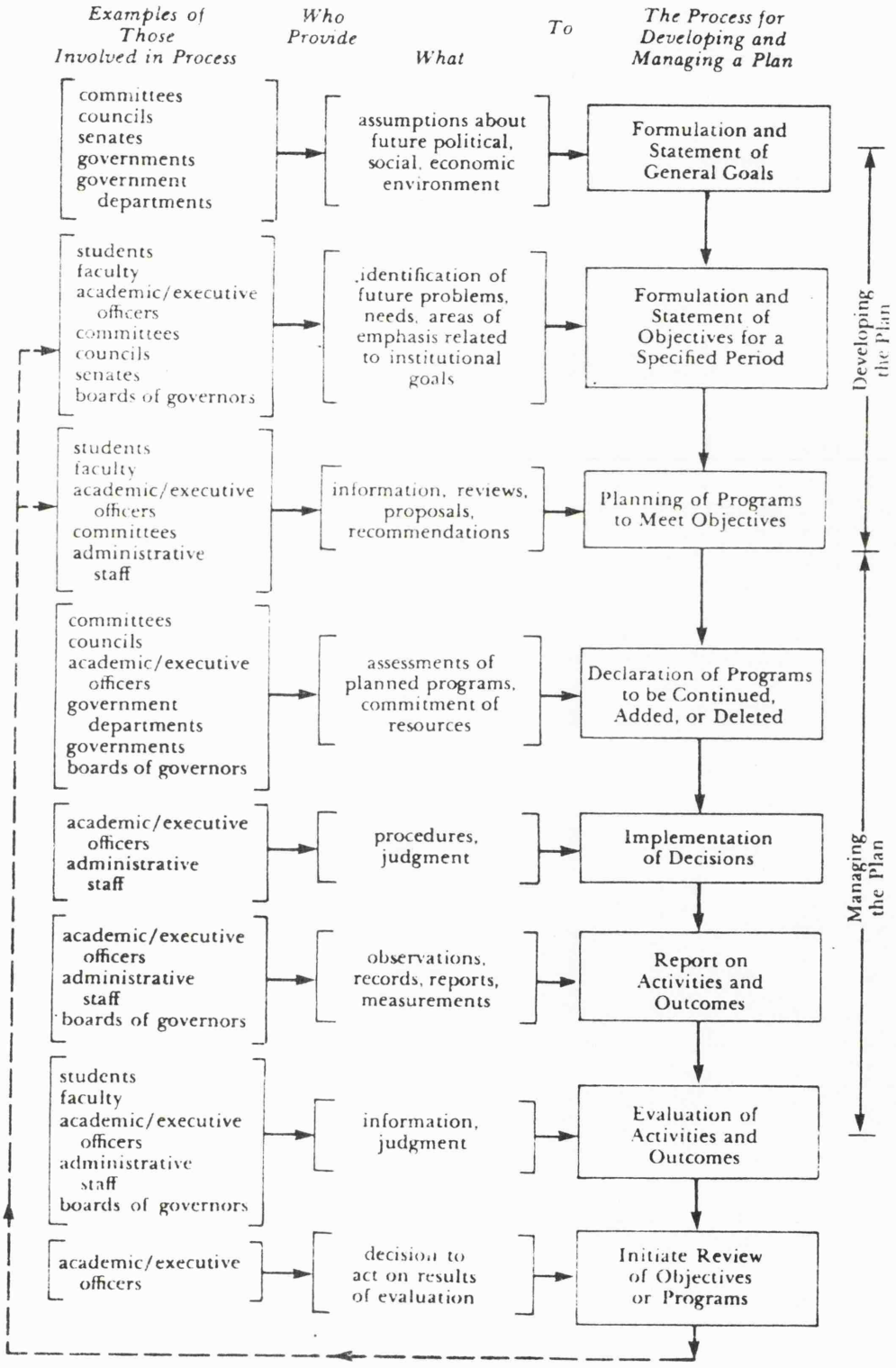
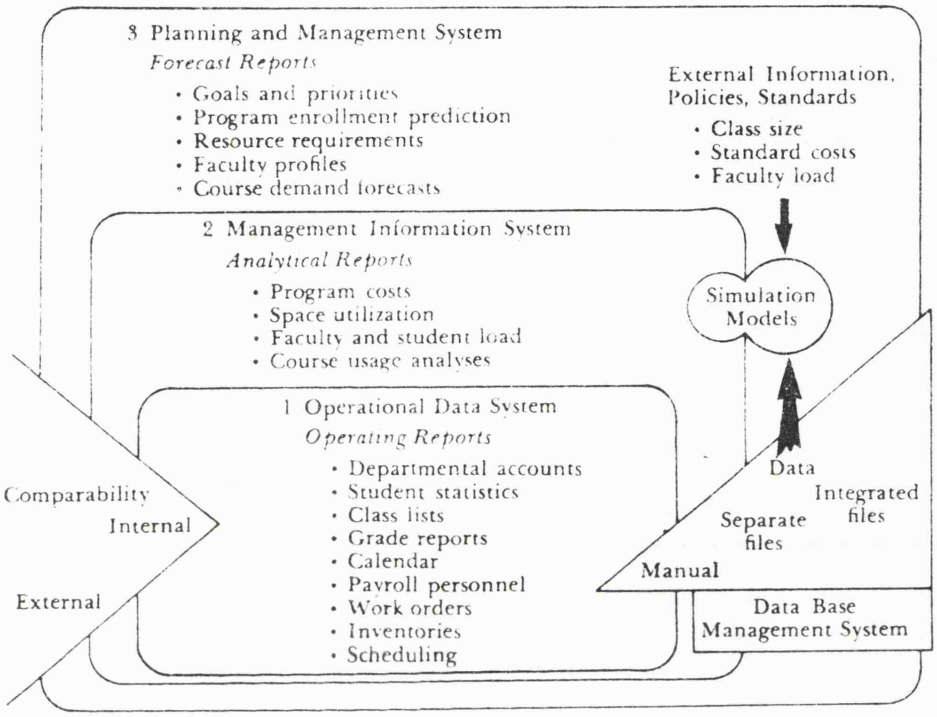


FIGURE 4

UNIVERSITY STRATEGIC PLANNING

The Information Hierarchy



In both Figures 3 and 4, we begin to see the 'effective' integration of management concepts, detailed in Parts A, B, and C, applied to the university.

Throughout their work, Jedamus, Peterson and Associates echo Thomas' call for the formalization of a policy committee, and of an institutional research unit to guide the policy committees. The essence of the work is seen in perspective of one of its authors, Poulton, based on his research into the planning strategies of universities:

> "... considerable effort has been directed toward the design and development of planning and management techniques to increase the level of rationality in post secondary education decision making. The resulting literature contains many prescriptions ... but little comparative evidence ... the problem is the development of a strategy for moving university management toward a planning orientation in decision making where rational bases are provided for decision making and these bases accompany the decision made[78]."

Reinforcing the need for more comparative research and evidence relating to experiences in university management, Sizer compared the research in Europe, the United States and his native Britain, drawing heavily from the OECD/CERI Programme on Institutional Management in Higher Education, mentioned earlier[79].

In this comprehensive enquiry, Sizer reviewed the various approaches to planning and financial performance assessment in an attempt to prescribe much needed alternative strategic options available to university strategists due to increasing external influence and because

> "They are increasingly being asked to justify their activities and account for their use of resources and their performance in terms of their effectiveness and their efficiency, not only to external financing bodies but also to other influencial groups in society[80]."

This was a partial response to statements released by both the British House of Commons Education, Science and Arts Committee stressing

> "We need a higher education system which is more accessible, flexible, accountable, and readier to undertake new and unfamiliar roles[81]."

and the Secretary of State for Education and Science urging (and forewarning)

> "... that a new central focus is required to oversee the financing and management of higher education outside the university, as the best means of securing, institution by institution, over the country as a whole, a balanced and nationally co-ordinated provision within set financed limits[82]."

Sizer's perspective was also a response to the new rationalization (and reduction) of funding and programs imposed by the University Grants Committee in their (in)famous July, 1981 'master plan'[83] and

> "... the difficulties surrounding performance assessment in institutions which frequently do not have clearly defined objectives, generate multiple inputs, outputs, and incomes and within which sub-optimal behavior tends to be the norm[84]."

He concludes that all universities in general, and British universities in specific, should develop longer-term planning, strategies and attitudes by starting to first

1. examine systematically the future environment in which it will be operating and to identify threats and opportunities, and
2. to understand and communicate the implications of this future environment to the institution's constituencies[85].

Stressing the innumerous pressures that were also forcing universities in the United States to reevaluate their priorities

and relationships with their external environments, Mingle called for the use of both strategic planning and planners who would

> "... try to orchestrate the future for their organizations--instead of projecting the future and then responding to it[86]."

Mingle shared Thomas' perspective in that the primary problems were also seen to be

> "... the difficult management and policy issues facing higher education and government ...[87]"

requiring increased information-sharing mechanisms to be developed between these two bodies.

Recently, research has begun to examine both the level of awareness of, and types of external and internal issues being targeted by university presidents.

Table 3[88], summarizes Walter's findings in the United States. Just as in Sizer's work, financial issues, and enrollment concerns (ultimately effecting finances) were considered most significant.

TABLE 3

CRITICAL ISSUES FACING UNITED STATES UNIVERSITY PRESIDENTS

Issues	Public and Private Institutions (n=527)		
	Rank	Response Percent*	Score**
Inflation and financial concerns	1	64.3	810
Enrollment declines/recruitment and retention	2	59.6	694
Program development and improvements	3	35.1	305
Endowment and fund raising	4	25.8	280
Changing mission and purpose	5	18.0	176
Program maintenance/reorganization in response to inflation and enrollment	6	14.2	162
Other miscellaneous issues#	7	9.9	90
Facility development and improvements	8	8.9	75
Governmental/legal regulations and interference	9	8.5	72
Maintaining unique, independent thrusts (liberal arts, religion, etc.)	10	6.1	68
Faculty recruitment/retention	11	7.0	66
Faculty and student morale	12	7.4	63
Faculty development	13	7.8	62
Public relations	14	6.6	62
Governing board relations	15	6.8	61
Faculty militancy and unionism	16	6.1	58
Faculty salary parity	17	4.9	43
Staff reduction and tenure considerations	18	2.7	27
Energy concerns	19.5	2.1	15
Interinstitutional competition and rivalry	19.5	2.1	15

* Percentage of respondents in each category who identified each issue among the top three confronting their institutions.

** Scores were accumulated on the basis of 3 points for each top-ranking response, 2 points for each second ranking response, and 1 point for each third ranking response.

Issues that did not conform to other categories; among the more frequent ones were athletics and Title IX (6), improved management (6), and temporarily increasing enrollment (3).

In Canada, Barrington attempted to discover if college Presidents shared the same environmental issues perspective with that of government officials responsible for education and manpower planning in the province of Alberta[89].

The issues identified by both groups as having the most influence during the 1980s included:

1. the demand for technological training and retraining;
2. a growing population;
3. intensified development of the resource industry;
4. inflation, industry as a pressure group and increasing in-migration;
5. a buoyant economy, decentralization of college services by region and regional expansion of the population;
6. faculty as a pressure group, a government policy of fiscal restraint, industrial expansion and computer technology;
7. growth in the service sector, and
8. government priorities among all sectors and a different student population[90].

Barrington concludes that

> "... both groups have a similar perception of what the impact of the environment on colleges is likely to be in the decade of the eighties ... these findings are positive for college-government relations ... should be communicated internally to other staff members ... (and) a broader base of understanding about environmental factors should strengthen the institutions' ability to cope with rapid change.[91]"

Duea examined both United States college and university Presidents' ratings of their administrative tasks relative to:

1. alumni affairs and fund raising;
2. planning and administering the budget;
3. personnel tasks (recruitment, negotiations);
4. governing-board relations;
5. program development and improvements;
6. student affairs, and
7. other (long-range planning, public relations and civic affairs)[92].

For the public institutions surveyed, the Presidents ranked 'planning and administering the budget' highest across the three variables--amount of time consumed, task performance, and stress potential. Whereas for private universities, 'alumni affairs and fund raising' ranked just ahead of planning and administering the budget across the three variables[93]. Duea attributes this difference to the need of private schools to be more connected with external sources as a result of their reliance on funding from non-government sources. He also suggests that public institutions could learn much about external linkage development from these private schools who constantly looked for alternative sources of revenue. Planning for both public and private schools was primarily shorter-term and Duea suggests that one essential priority

for the Presidents was a need for more effective 'publics' orientation[94]. He concludes:

> "All groups of administrators need effective training in the area of both traditional and non-traditional funding sources. Increased attention needs to be given to public relations, grant procural and management, and endowment and fund raising. Certainly all presidents of colleges and universities need to be adept in each of these areas[95]."

Le Vasseur, based on his work with the European-based OECD's Programme of Institutional Management in Higher Education (IMHE), summarizes the major work 'Likely Future Trends of University Management in Europe', by reinforcing Duea's conclusions:

> "In the future, the interaction between institutions and their economic environments is likely to become as important for management as relations with governments. Thus, recent IMHE activities have begun to deal with university-industry relations and university-community relations resulting from new demands placed upon higher education institutions[96].

Recently, Thomas further develops his application of modern corporate policy studies to British universities[97]. Stressing that policy formulation and implementation should be the primary focus for all planning activities, Thomas articulates the challenges facing university policy makers:

> "The policy makers have therefore to contend with conflicting environments, and with markets that seem curiously insulated from each other, e.g., governmental perceptions of 'national need' as against those expressed by employers, aspirations or interests expressed by students, and the experiences and values of teachers--in both schools and universities[98]."

In order to manage the unique internal political realities of a university, while balancing the myriad external pressures working against potential initiatives, Thomas again suggests that it is essential to have (or develop) a combination of 'top-down' and 'bottom-up' assessments and approaches[99]. Most importantly, though, Thomas stresses the balance between a continual external and internal planning/monitoring orientation "... related to resources available or to be sought[100]."

Concurrently, in Canada, Taylor reinforces Thomas' perspective and applies this policy-making concept, adapted from the strategic planning literature, and describes university policy-making as:

> "... a network of policy-making systems, each of which is temporary in nature and is initiated in response to stresses in the institution's operating environment. Each policy-making system is itself a network of issues and actors who function in interaction with their environment, progressing in a heuristic manner toward a vaguely defined goal[101]."

Just as Thomas stressed how universities possessed unique political realities which would require attention when attempting to utilize a corporate strategic planning approach, Taylor concludes:

> "... that although policy-making is a continuous process within the university, issues are not recognized until the institution is under some type of environmental stress be it economic, political, or social. Further, it appears that a kind of "institutional inertia" or "institutional conservation" as suggested by Astin (1976), exists which inhibits the recognition of an issue or the development of a policy unless the stress is perceived to

> be sufficiently large and threatening. This may explain why some issues receive immediate response and swift resolution while others apparently get bogged down in endless 'loops' or iterations. Unless the key actors perceive the issue as threatening either to themselves or their immediate organization they will not expend the energy necessary to move the process along, continually overcoming the institutional inertial02."

Uhl attempts to facilitate the utilization of strategic planning in universities by developing an approach for formalizing the university research effort into various 'information areas' since "... effective strategic planning depends on information103."

Uhl identifies the four critical areas for university planning as:

1. the analyses phase including the assessment of external and internal environments;
2. the mission-and-goals phase;
3. the objectives and action-plans phase, and
4. the resource-use, needs-analysis, and expenditure-strategies phase104.

Uhl suggests that if all four phases of strategic planning were performed within a university, eight outcomes would result:

1. information from the analysis of the external environment;
2. information from the analysis of the internal environment;
3. information from the facilities analysis;
4. recommended planning strategies;

5. updated mission statement;
6. statement of goals;
7. final revenue estimates, and
8. expenditures priorities[105].

While no mention is made of any quality or quantity measures of these nine outcomes, Uhl has attempted to provide a measurement mechanism of strategic planning.

Keller also argues for development, use and monitoring of strategic planning in university[106]. Information again is seen as the essential ingredient of 'strategic academic management', which Keller argues:

> "... keeps you sensitive to changing market demands and the competition, it presses you to create initiatives that you wish to take in the face of external factors ... as the French say, `Cherchez le creneau'--look for the hole ... strategic planning keeps you, not the market, in control[107]."

Referring to the work of The American Association of State Colleges and Universities' Resource Center for Planning Change, the Institute for the Future, the Hudson Institute, OECD/CERI, AT & T, Xerox and IBM, Dube and Brown reinforce the three potential benefits of strategic planning for universities as:

1. "... the approach stresses the process rather than the results; the academic community becomes involved and committed to the future well-being of the institution and not to a soon to be dust-covered document ... (and)

2. ... the systematic and analytically oriented essence of the process, as opposed to a rigid and controlled orientation, facilitates creative and innovative thinking rather than the development of plans whose sole function is performance evaluation ... (and)

3. ... the process develops and strengthens the concept of strategic planning--making it a continuous, adaptive activity that is on-going instead of an annual, biennial or quadrennial event[109]."

Dube and Brown stress the need for both research concerning, and the implementation of, strategic planning in universities in order to:

> "... establish an organizational 'mind set' that is future oriented, and not imprisoned without a tendency to base plans merely on an extrapolation from the past ... to conquer the turbulence and problems of the 1980s and 1990s[110]."

In Britain, the need for universities to be strategically prepared via this futures orientation was highlighted throughout the major two-year long research undertaking--The Leverhulme Programme of Study into the Future of Higher Education--the purpose of which was:

1. to provide opportunities for all who are able to benefit from some form of higher education and to encourage access from a broader social spectrum at present;

2. to reduce undue specialization in secondary education and the initial years of higher education;

3. to create a framework within which the quality of teaching and research can be maintained, at a time when underlying demographic trends will make competition for resources difficult;

4. to stimulate research and other academic activities not directly linked to student numbers;

5. to encourage institutions to prepare realistic development plans;

6. to increase the capacity of universities, polytechnics and colleges to respond positively to changing academic, social, economic and industrial needs;

7. to promote efficiency in the use of resources, and

8. to create a framework for policy and management studies that will help leaders of academic institutions meet the challenge of adaptation without growth[111].

Throughout this ten volume work, not only did the volume editors and contributors attempt to identify the dominant issues that universities would have to contend with in the future but, more importantly, they outlined specific proposals concerning methods with which to deal with these issues.

One dominant theme that prevades these proposals relates to the need for more contact and for resource and information sharing between governments, employers and universities in order to better respond to external initiatives (also highlighted in the aforementioned Purpose #6)[112]. But in order to have the flexibility to respond to these initiatives, it is seen as desirable to establish a centralized policy studies centre serving both government departments and higher education institutions[113]. This proposal is consistent with the policy orientations of Thomas[114], Taylor[115], and Kogan and Kogan[116], and clearly demonstrates the significance, in Britain, of establishing strategies to maximize both opportunities and decreasing resources by developing more

effective information networks with external constituencies so as to better develop

> "... multiple criteria for policy formulation and resource allocation[117]."

The dynamics of these Leverhulme strategy proposals, in relation to the policy options mentioned, can be seen from a representative sample of other proposals taken from the volumes

1. "Medium and long-term market assessments and likely labour market developments should be made regularly. This would enable potential future difficulties to be assessed, and would lead to a more concerted attempt by both higher education institutions and employers to intervene when problems arise[118]."

2. "The collection and dissemination of information on demand for and access to higher education should be maintained and where possible in forms accessible to the widest possible audience[119]."

3. "Institutions should adopt an open approach to planning. In the uncertain environment of the 1980s the planning function must take the form of an interaction process in which the effects on the institution of changes in the external environment are continually re-assessed[120]."

4. "Institutions in higher education should be prepared to place much more emphasis upon the needs of older students[121]."

5. "Each institution should:

   a) Develop a strategic plan which includes a strategy for survival (short-term) and resource mobility (long-term), and provide mission statements for each academic department and unit.

b) Ensure that its resource allocation procedures are consistent with the strategic plan and mission statements[122]."

The significance of the Leverhulme project was that the 'mind set', aforementioned by Dube and Brown, in relation to strategic issues, options, environments and planning, was being developed throughout the institutions of higher education participating in this project. And this is the first of many critical steps before integrated strategic planning can be operationalized within the higher education setting.

Lockwood suggests that the process of change required for higher education institutions will thus be one of "adjustment not revolution"[123]. Given the lack of strategic management expertise within these institutions, Lockwood also argues for more advanced training of their leaders in order to develop and utilize information networks concerning the four external challenges facing these institutions in Britain:

1. a reduction in resources and more specific instructions about how they must be used;
2. a challenge to be efficient in other ways than resource allocation (such as maintenance of quality and institutional vitality);
3. a challenge of the markets (both traditional and new), and
4. a challenge of living with uncertainty and being more responsive to external needs (adjusting to change rather than being adjusted by change)[124].

Responding to similar challenges, the Provincial Government of Nova Scotia, Canada, recently established the 'Royal Commission on Post Secondary Education' in order to:

1. determine present and probable future needs for post-secondary education, taking into consideration
   a) the requirements of the people, the economy and society of Nova Scotia;
   b) opportunities for inter-institutional co-operation to further rationalize the administration and provision of post-secondary education in universities, colleges and other institutions;
   c) standards necessary for education of students wishing to enter the professions, and the contemporary requirements of the professions;
2. examine the impact of federal fiscal arrangements of the Province's ability to maintain the existing system of post-secondary education of Nova Scotia;
3. examine the current structure organization and financial position of post-secondary educational institutions, the legislative and administrative provisions related thereto and the form and extent of government support, and
4. explore opportunities for the improvement of the present methods of co-ordination and development of overall policy for post-secondary education in Nova Scotia[125].

This Commission required that all post-secondary institutions submit detailed proposals concerning their respective strategic plans, including goals, objectives, and priorities, in the areas of teaching, research and curriculum until the year 2000[126]. While the outcoming recommendations are not yet known, this was the first time a Provincial Government demanded such detailed and long-term submissions from its post-secondary institutions suggesting that the challenge,

posed by Lockwood and developed in the Leverhulme project, are being targeted in Canada as well. More importantly, though, it shows that universities, and other post-secondary institutions, must develop long-term planning processes (strategic planning processes) if they are to respond to the external challenges and initiatives facing them.

Summary

Throughout this overview, evidence has been developed to show how the evolution of planning and strategic planning has influenced, and will influence, the non-profit sector in general, and universities specifically.

There can be little doubt that the corporate literature and practice of strategic planning influenced the non-profit application of this process. But while the evidence in this overview suggests there is both much support and need for strategic planning in this non-profit sector, the empirical evidence, in all areas of this process, is still insufficient.

Levy argues that more cross-national comparative research on aspects of strategic planning in universities is needed[127].

Wheelen and Hungen, summarizing the non-profit research of Wortman[128] and Keating and Keating[129], argue that:

> "Not-for-profit organizations are just in the initial stage of using the Strategic Management concept[130]."

They suggest that while there is now a growing body of literature describing the peculiarities of non-profit organizations, these organizations are 'ripe' for research activity, especially longitudinal studies on their adaptation of corporate planning techniques[131].

Shirley argues that the main value of research concerning the use of the strategic planning process in non-profit organizations is:

> "... in determining how an organization defines its relationship to its environment in the pursuit of its objectives[132]."

In order for universities to maximize the potential of any external initiatives, Shirley stresses the need for research concerning

> "... a structured approach for analysis and evaluation of environmental forces in relation to internal capabilities and values ... the process of strategic decision making in higher education, the analytical techniques that are (or may be) necessary to support that process, and the appropriate content of institutional strategy under varying environmental conditions[133]."

Dube and Brown reinforce the need for increased research concerning the use of strategic planning by universities:

> "The utilization of strategic planning methods by public colleges and universities is a sine quo non, if we are to do better with less[134]."

Finally, Thomas adeptly implies, the consequences of not engaging in both on-going strategic planning research and process adaptation in universities:

> "To deny a practical significance to strategic institutional planning is to invite our own destruction as environment oriented organizations of value to our societies through our collective individual independence of exploration, instruction and advice[135].

Implications

The review of the literature, throughout Parts A, B, C, and D has highlighted the foundations on which corporate strategic planning is based and has identified areas of applicability for university management--especially the areas of policy formulation via external environment analysis and diagnoses.

It is the contention of this author, that one much needed area of research, therefore, relates to the perceptions, held by senior university administrators, relative to their external environments, concerning the concensus (or lack of it) about the crucial issues facing them. And, more importantly, whether they have or are developing information networks to monitor and utilize the external information for any strategic planning activities.

Given the increased external intervention being experienced by universities in both Britain and Canada (particularly Nova Scotia), one would expect a high level of activity and significance being placed on external analysis and diagnoses. And most importantly, that these universities would be engaging (or engaged) in second-generation planning.

Since this dissertation attempts to partially fill those 'gaps' in the research and literature concerning environmental and strategic planning in universities, the research rationale and process for this project will now be detailed.

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CHAPTER THREE

RESEARCH METHODOLOGY

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Prologue

There is an obvious momentum in both Britain and Canada (particularly Nova Scotia) to try to rationalize the university systems. The 1982-1983 period saw both countries attempt to stimulate systems planning and information sharing via both the Leverhulme Programme[1] and 'The 29 Questions'[2] (Response on Development of a Strategy for Higher Education into the 1980's[3]) in England, and 'The Royal Commission on Post Secondary Education'[4] in Nova Scotia, Canada.

Both of these initiatives sought to discover the respective universities' plans/opinions concerning future needs, trends and changes relative to their internal and, more importantly, external constituents. These planning initiatives, though, assumed that these universities were, in fact, in touch with their constituents and were also using this knowledge/ information in their future plans to help coordinate the changes.

The evidence from Part D of the review of the literature clearly suggests this may not be the case.

This chapter will detail the rationale and format for the research this author conducted which was aimed at developing empirical evidence to help establish how 'in touch' with their environments these universities are.

Sir Keith Joseph (Department of Education and Science) clearly provides a mandate for such a research focus in

his memorandum to Peter Swinnerton-Dyer (University Grants Committee) arguing that a major weakness of universities seems to be -

> "... of not being able to take proper account of what is happening outside them[5]".

> "... to initiate and conduct major projects under the prevailing conditions of contemporary cross-national comparative survey research is not only a rational scientific activity--it is also a passion, an addiction, maybe a form of madness. Successful project directors are seemingly able to incorporate in their persons all the virtues and vices of stoic philosophers and of maniacs running amuck. Humility and megalomania, cruelty to oneself and to others, and above all, a lot of endurance is involved. Still, the role of good scholarship, disciplined thinking, organizational and improvisatory talent should not be underestimated, nor the role of luck and serendipity in achieving even a moderate success."
>
> Alexander Szalai
> 'Cross National Comparative Research'
> 1972

Research Background

To reflect on the 'why' of a research project is a fascinating exercise in what Peters and Waterman term 'in search of excellence'[6]. This author's interest in university management stems from working both in the administration (as a Planning Analyst) and in the Faculty (as a Management Professor) of universities. It also stems from a lack of information and research concerning planning, in general, and strategic planning, in particular, for universities (as detailed in Part D, Chapter 2).

The initial search/exploration process, to help crystalize the objectives for the research, combined both formal and informal probes[7] utilizing Clover and Balsley's[8] format, including:

1. study of records/reports of universities and of university related organizations and government agencies/bodies[9-11];

2. purposeful conversation with qualified administrators and faculty in the above organizations[12-16];

3. review of the literature concerning both profit and non-profit management and strategic planning[17], and

4. brainstorming with researchers actively involved in related study[18-20].

From this initial exploration, the topic began to take shape and the dominant dimensions/variables, at this stage, included university management, strategic planning, comparative and cross-national/cultural studies, and information systems/networks. These four inter-related elements became the next search descriptor set[21] for the second phase of the exploration process--the in-depth secondary data review utilizing these descriptors as the search control variables. Texts, periodicals and journals, government and associations documents, and bibliographic, dissertation and abstract reviews were used extensively to determine the breadth and depth of writings concerning the four aforementioned research dimensions.

From these manual and computer data searches, it became apparent, that both in Canada and Britain, five characteristics, documented by Huff and Ramney[22], seemed to highlight the reasons why planning in universities was constrained relative to external environmental analysis, including:

1. Lack of Resources for Extensive Environmental Monitoring. Few university systems have elaborate mechanisms for planning. Most environmental assessment procedures take more time than administrators feel they can give. Resources used for assessing the external environment have to be weighed against other priorities closer to the primary educational mission.

2. Information Dispersed Among Many Individuals. Universities are service organizations. Many employees are in contact with different aspects of the external environment, thus many different people have a piece of the picture needed to plan for better relations with the environment. Bringing this information together is time consuming, and integrating the information gathered is even more difficult. These complexities tend to discourage people from engaging in productive discussions; their different perceptions hinder the development of action planning.

3. Lack of a Framework for Categorizing a Diverse Environment. So many individuals and organizations interact with a given university system that it is difficult for administrators to encompass then in one framework. The elements which are critical to continued existence are certainly recognized. 'Secondary' factors which have less obvious impact are less well identified. This is especially true when one tries to account for broad social and political trends such as 'changing attitudes toward taxpayer support of education'.

4. Human Limits to the Amount of Information that can be Effectively Processed. University administrators may feel immobilized by the barrage of environmental forces impacting on them. Unless there is some way to delineate clearly a minimum number of high payoff areas for planning, the sheer number of environmental forces and potential strategies for dealing with them tends to be discouraging.

5. Uneven Ability to Affect Important Elements of the Environment. Parts of the environment which have a great impact on the achievement of the organization's goals are not always open to influence by university administrators. There is a need to assess the importance of various environmental influences, but then to focus on those relationships

where changes in strategy are most likely to bring new benefits to the organization.

Since the problem solving and decision making requirements of senior university administrators were obviously becoming more complex and difficult, it was possible to identify seven conditions where problem solving payoffs were likely to be realized, and therefore planning effort ought to be concentrated. Adapted from Jarvis and Mann[23], dynamic problem solving procedures are unlikely to be utilized by senior management unless:

a) the strategy presently employed is risky;

b) a new solution will not entail undue risk;

c) there is some hope of discovering a better solution;

d) there is time available for developing a new strategy;

e) there is information available to analyze the solution;

f) there is a relatively high ease of implementation, and

g) there is a belief in the continuing impact of the situation on the organization.

Negandhi similarly argues that the problem solving orientation of senior managers in cross-national studies needs to be examined relative to the environments they interact with, but that -

> "... environmental factors alone cannot explain the existing differences in management practices and effectiveness among the organizations. If the environmental factors were the sole determinants of management practices and effectiveness, then one should expect close similarities when size

and technology are held constant. However, such close similarity is far from reality[24]."

Again, external information is also seen as a critical success factor, by Negandhi, for organizational planning[25].

TABLE 1

ENVIRONMENTAL ASSESSMENT RESEARCH CATEGORIZATION

OPERATIONALIZATION	CONCEPTUALIZATION: Participant Interpretation	CONCEPTUALIZATION: Environmental Attributes
	CATEGORY I	CATEGORY III
	Lawrence and Lorsch (1967)*	Lawrence and Lorsch (1967)*
	Duncan (1972)	Pfeffer and Lebiebici (1973)
	Osborn and Hunt (1974)	Tosi, Aidag and Storey (1973)
	Downey, Hellnegel and Slocum (1975)*	Baldridge and Burnham (1975)
Quantitative	Kochan (1975)	Downey, Hellnegel and Slocum (1975)*
	Nebrecker (1975)	Kochan (1975)*
	Pennings (1975)	Pennings (1975)*
	Leifer and Huber (1977)	Staw and Szwakowski (1975)
	Tushman (1977)	DuBick (1978)
	Whetten (1978)	
	Lynton (1969)**	Hickson, et al. (1971)**
	Jurkovich (1974)*,**	Jurkovich (1974)*,**
	CATEGORY II	CATEGORY IV
	Lawrence and Lorsch (1967)	Hinnings, et al. (1974)*
		Hirsch (1975)
		Kimberly (1975)
Qualitative		Sebring (1977)
		Blau and McKinley (1979)

* The designs of these research studies include multiple methodologies of the operationalization and conceptualization dimensions and thus are included in more than one category.

** These studies are not empirical. Nonetheless, they are included to suggest various methodologies that could be utilized in conducting environmental assessments.

Based on their extensive review on the literature dealing with environmental assessment research, Downey and Ireland conclude that the majority of work has utilized quantitative measures and that more research is needed in either qualitative and/or qualitative and quantitative (multiple methods) research designs[26]. Table 1[27] summarizes these findings.

The need to combine qualitative and quantitative methodologies more is reinforced by Miles, who argues -

> "Qualitative data are attractive for many reasons: they are rich, full, earthy, holistic, 'real'; their face validity seems unimpeachable; they preserve chronological flow where that is important, and suffer minimally from retrospective distortion; and they, in principle, offer a far more precise way to assess causality in organizational affairs than arecane efforts like cross-lagged correlations (after all, intensive fieldwork contains dozens of 'waves' of data collection, not just two or three). Furthermore, their collection requires minimal front-end instrumentation. Qualitative data also have attractive qualities for their producers and consumers; they lend themselves to the production of serendipitous findings and the adumbration of unforeseen theoretical leaps; they tend to reduce a researcher's trained incapacity, bias, narrowness, and arrogance, and their results, reported in forms ranging from case studies to vignettes, have a quality of 'undeniability' (Smith 1978) that lends punch to research reports. Finally, there are many reasons to believe that qualitative data can very usefully be played off against quantitative information from the same organizational setting (Sieber, 1973) to produce more powerful analyses than either sort of information could have produced alone.
>
> But qualitative data have serious weaknesses and problems as well. Collecting and analyzing the data is a highly labor-intensive operation, often generating much stress, even for top quality research staff. Qualitative fieldwork is traditionally demanding even for the lone fieldworker, accountable only to the data and his or her discipline; when several fieldworkers' efforts must be coordinated,

> as is more and more typically the case, much energy is required to make data systematically 'comparable'. Qualitative data tend to overload the research badly at almost every point: the sheer range of phenomena to be observed, the recorded volume of notes, the time required to write-up, coding, and analysis can all become overwhelming. But the most serious and central difficulty in the use of qualitative data is that methods of analysis are not well formulated. For quantitative data, there are clear conventions the researcher can use. But the analyst faced with a bank of qualitative data has very few guidelines for protection against self-delusion, let alone the presentation of 'unreliable' or 'invalid' conclusions to scientific or policy-making audiences. How can we be sure that an 'earthy', 'undeniable', 'serendipitous' finding is not, in fact, wrong[28]?"

Extending the advocacy of increasing the aforementioned research types to the cross-cultural/national perspective, Caty, Drilhon, Ferne, and Wald stress that fundamental exploratory research is especially needed in areas focusing on university-industry linkages and information networks that are gaining popularity and presence in Britain and Canada, and generally in most OECD countries[29]. Their evidence echoes the UNESCO based European Centre for Higher Education research, comparing the advantages available to these universities developing and using both formal and informal information links (personal and written) with industry[30].

While both Britain and Canada participate in OECD- and UNESCO-oriented studies, the comparative research base, involving these two countries and the aforementioned research dimensions is non-existent.

Szalai's research, comparing the results of both multi-national and binational comparative research, suggests that there is a trend to using 'most favoured nations' in these types of studies[31]. While both the United States and Britain are the two most researched countries, including their own participation in binational studies with each other, the Britain-Canada link is virtually non-existent[32]. Based on both the successful and unsuccessful studies examined, Szalai summarizes the characteristics required for successful cross-national comparative research, as -

a) The person (or the small group of persons) who initiated the projects seem to have had a certain notion in mind regarding the kind of countries they would prefer to have, for substantive reasons, as participants of the project, e.g., countries which have attained different degrees of industrialization and urbanization or a combination of countries having different political systems but systems which have enough in common to make the intended comparison scientifically realistic.

b) Personal acquaintances of the initiator of the projects in the international community of scholars and especially also their opportunities to travel and to make personal contacts played a considerable role. There is also a snowball-effect involved. Contacts of acquired project participants with scholars and institutions in other countries are often helpful in extending the circle of countries represented in the project.

c) The presence of scholars interested in the same problem and having at their disposal (or being able to create) a local research organization which can carry out the survey work was, of course, a pre-condition for the participation of any country.

d) In the projects the question of whether local funding could be found for the survey to be carried out in a particular country, or whether the research to be done there could be financed from other sources accessible to the project, proved to be of paramount importance.

e) The political feasibility of doing survey research of a particular kind (or simply survey research of any kind within the framework of a 'foreign' or 'international' project) was obviously a strong determinant factor in the composition of the 'nation-sample', especially in the negative sense by excluding a priori some countries or by leading to 'drop-out' under the pressure of political circumstances.

f) The participation of countries in earlier projects of similar character, the experience of countries (or rather of their scholars and of their research organizations) in the given substantive field of research and also in survey research in general, the general development of social science in the different countries had an influence on the composition of the 'nation-sample'[33].

In reviewing the requirements for successful cross-national comparative research, Verba also refers to similar 'subjective' characteristics and states -

> "These characteristics, though they violate more abstract principles of purposive scientific sampling of nations, cannot be ignored, nor ought they be denigrated. The problems of achieving adequate collaboration on research is such a complex and difficult one that one cannot choose sites for such collaboration the way one can choose a respondent to a questionnaire on the basis of random procedures. Too much is at stake[34]."

Both Adler[35] and Miller[36] reinforce the need for more international comparative cross-cultural research focusing on the interaction between managers and their environments. Adler states -

> "Research confined to one cultural context is constrained in both theory construction and practical application (Barret and Bass, 1976). These constraints, no longer acceptable to managers, are less acceptable to management researchers[37]."

Table 2[38] compares the variety of cross-cultural management research with the research focus and methodological issues inherent in each type. Table 3[39] details the eight major methodological issues, discussed in the literature, which need to be (and were in this project) addressed before cross-cultural management research should be initiated.

TABLE 2

TYPES OF CROSS-CULTURAL MANAGEMENT RESEARCH

Title	*Culture*	*Type of Study*	*Primary Question*	*Main Methodological Issues*
Parochial Research	Single culture studies	Domestic studies	What is the behavior of people like in work organizations? Study is only applicable to one culture and yet it is assumed to be applicable to many cultures.	*Traditional Methodologies.* All of the traditional methodological issues concerning design, sampling, instrumentation, analysis and interpretation WITHOUT reference to culture.
Ethnocentric Research	Second culture studies	Replication studies	Can we use home country theories abroad? Can this theory which is applicable in Culture A be extended to Culture B?	*Standardization and translation.* How can research be standardized across cultures? How can instruments be LITERALLY translated? Replication should be identical to original study with the exception of language.
Polycentric Research	Studies in many cultures	Individual studies of foreign cultures	How do managers manage and employees behave in country X? What is the pattern of relationships in country X?	*Description.* How can country X be studied without either using home country theories or models and without using obtrusive measures? Focus is on inductive methods and unobtrusive measures.
Comparative Research	Studies contrasting many cultures	Studies comparing many foreign cultures	How are the management and employee styles similar and different across cultures? Which theories hold across cultures and which do not?	*Equivalence.* Is the methodology equivalent at each stage in the research process? Are the meanings of key concepts defined equivalently? Has the research been designed such that the samples, instrumentation, administration, analysis, and interpretation are equivalent with references to the cultures included?
Geocentric Studies	International business studies	Studies of multinational organizations	How do multinational organizations function?	*Geographical Dispersion.* All of the traditional methodological questions with the added complexity of geographical distance. Translation is often less of a problem since most MNOs have a common language across all countries in which they operate. The primary question is to develop an approach for studying the complexity of a large organization. Culture is frequently ignored.
Synergistic Studies	Intercultural management studies	Studies of intercultural interaction within work settings	How can the intercultural interaction within a domestic or international organization be managed? How can organizations create structures and processes which will be effective in working with members of all cultures?	*Interaction models and integrating processes.* What are effective ways to study cross-cultural interaction? How can universal and culturally specific patterns be distinguished?

TABLE 3

METHODOLOGICAL ISSUES IN COMPARATIVE MANAGEMENT RESEARCH

Issue	Description
1. **Purpose** of Comparative Management Research	To develop equivalent theories of management within work settings in cultures around the world.
2. **Fundamental Dilemmas** confronted in all Comparative Management Research	**Mental Programming of the Researcher as a Cultural Being** In order to design, conduct, and interpret research from each culture's perspective—and not strictly from a single culture or ethnocentric perspective--research teams should be multicultural. **Identical Versus Equivalent Approaches to Cross-Cultural Research** At a sufficiently high level of abstraction, the operationalization of the concepts and approaches should not be identical, but should be culturally equivalent. **Threats to Interpretation: Interaction Between Cultural Variables and the Research Topic and Approach** - Cultural and research variables interact. The interaction can confound results and render then uninterpretable. - Multiple approaches and multiple methods are needed to understand interaction effects.
3. **Research Topic**	At the highest level of abstraction, the research topic (i.e., the research question or theory being tested) should be identical across cultures. The conceptual and methodological approaches to researching that topic should be equivalent across cultures. Across cultures, the topic should be: - **Conceptually equivalent.** The definition of the concept should have the same meaning in each culture. - **Equally important.** The phenomena should be equally modal or marginal in each culture.

Table 3 (Continued)

Issue	Description
	- **Equally appropriate.** For example, the topic should be equally appropriate vis-a-vis political and religious sensitivities in each culture.
4. **Sampling**	**Sampling issues** involve size of sample, selection of cultures, representative versus matched samples, and the independence of samples: **Size of sample.** The number of cultures should be large enough to: - **Randomize variance** on non-matched variables. - **Eliminate rival hypotheses.** - Studies with insufficient numbers of cultures (i.e., two or three) should be treated as pilot studies. - **Selection of cultures.** The selection of cultures should be based on theoretical dimensions of the research, not on the opportunistic availability of access to particular cultures. - **Representative versus matched samples.** Is the research goal to have samples which are representative of each culture or is it to haved matched samples which are equivalent on key theoretical dimensions across cultures? Matched samples should be <u>functionally</u>, not literally, equivalent. - **Independence of samples.** Given the interrelatedness of the industrialized world, culturally, politically, and geographically independent samples in management research are generally neither feasible nor desirable.
5. **Translation**	**Equivalence of language.** The language used in each version of the research--instrumentation and administration--should be <u>equivalent</u> across cultures, not literally identical. - **Wording.** The wording of items and instructions should:

Table 3 (Continued)

Issues	Description
	- **Use a common vocabulary.** (E.g., high frequency words) - **Avoid idiomatic expressions** - **Use equivalent grammar and syntax** - **Use plain, short sentences** - **Include redundancy.**
6. **Measurement and Instrumentation**	**Equivalence of Instrumentation.** Are the test items, scaling, instrumentation and experimental manipulations equivalent across cultures? - **Equivalent variables.** Across cultures, are the items or measures conceptually equivalent, equally reliable and equally valid? Have the indigenous measures been created to operationalize conceptually equivalent variables? Are variables based on equally salient conceptual dimensions? - **Equivalent scaling.** Differences in means are uninterpretable unless measures on equivalent scales which have been developed individually in each culture. - **Equivalent procedures.** Researchers must use the same or equivalent procedures in each culture to develop scales. **or** - **Similar patterns of correlations.** Items must have similar patterns of correlations within each culture. - **Equivalence of language.** See translation above. - **Equivalence of experimental manipulations.** Interaction between experimental and cultural variables can confound interpretation. Therefore, experimental manipulations must be equivalent across cultures.
7. **Administration**	**Equivalence of administration.** The research settings, instructions, and timing should be equivalent, not identical, across cultures.

Table 3 (Continued)

Issue	Description
	Equivalence of response. Given that observation changes that which is observed, the influence of the reseach on the subjects should be equivalent across cultures. The research should be designed and administered in such a way that the response to the stimuli and to the situation is similar across cultures on such dimensions as: - **Familiarity.** Subjects should have equal familiarity with test instruments, format, and the social situation of the research. - **Psychological response.** Subjects should have similar levels of anxiety and other psychological responses in the test situation. - **Experimenter effect.** The extent to which the researchers communicate their preferred hypotheses to subjects—both verbally and nonverbally—should be equivalent across cultures. - **Demand characteristics.** The extent to which subjects attempt to discover the researcher's hypotheses and thereafter attempt to help (usually) or hinder the research varies across cultures based on such things as (1) sensitivity to various topics (sex, religion, politics), and (2) the courtesy bias. - **Characteristics of the person conducting the research.** Depending on the culture, there can be a difference in response (respectfulness, indifference, hostility) to such characteristics of the research administrator as: - Sex - Race - Origin: from an economically developed or developing country - Status relative to subjects: high versus low - Foreign versus citizen

Table 3 (Continued)

Issue	Description
	- **Characteristics of the presentation.** The response of the subjects can vary in reaction to - The introduction of the research - The introduction and characteristics of the presenter - The task instructions - The closing remarks - The timing of the presentation and data collection - The setting of the presentation and data collection The goal in comparative management research is to have the administration and experimental conditions equivalent, not standardized in each culture. The approach to conducting the research may be (identical), but the ways in which it is operationalized will vary from culture to culture.
8. **Analysis**	**Multivariate techniques.** Comparative research studies are complex. Univariate statistical techniques are generally inappropriate.

From the research literature, it was also deemed important to estimate the 'equivalence' of the variables being examined in cross-cultural projects. Nowak's work summarizes the six typical research equivalence considerations, that were utilized in this project, as:

a) the objects or phenomena are perceived or evaluated in a similar way in different cultures. One could speak here about **cultural equivalence;**

b) the objects (persons, institutions, communities) belong to the higher level aggregates or systems classified previously as being similar with respect to their specific properties. We may talk here about **contextual equivalence;**

c) the objects (persons, institutions, groups) occupy the same (absolute or relative) position within certain structural systems which have been defined previously as similar with respect to some of their properties. Here we might speak about **structural equivalence;**

d) the compared objects play the same role in the functioning of the systems compared. This is the situation for which I would like to use the term **functional equivalence;**

e) the phenomena are equivalent if they are empirically correlated in a similar way to a criterion variable, either phenomenologically identical in all systems compared or found on the basis of previous research as being relationally equivalent in any of the senses of this term. Here, I would like to speak about **correlation equivalence** and I would apply this term both to the manifest of statistical associations of observable data and to some more complex uses of statistical analysis, as for example, factor analysis, and

f) The phenomena are **genetically equivalent,** if they are defined as coming from the similar source. This is the case if some of their causes may be found in the phenomena which were previously defined as belonging to the same conceptual category[40].

Throughout the exploration phase of this research, the literature also referred to the potential for errors that all researchers face. Tull and Hawkins review these potential errors (this list helped focus much of the pretesting for this project), including:

1. **Surrogate information error:** Variations between the information required to solve the problem and information sought by researcher.

2. **Measurement error:** Variation between the information sought by the researcher and the information produced by the measurement process.

3. **Experimental error:** Variation between the actual impact of the independent variable(s) and the impact attributed to the independent variable(s).

4. **Population specification error:** Variation between the population required to provide the needed information and the population selected by the researcher.

5. **Frame error:** Variation between the population as defined by the researcher and the list of population members used by the researcher.

6. **Sampling error:** Variation between a representative sample and the sample obtained by using a probability sampling method.

7. **Selection error:** Variation between a representative sample and the sample obtained by using a nonprobability sampling method.

8. **Nonresponse error.** Variation between the selected samples and the sample that actually participates in the study[41].

Miles also forewarns that -

> "Certain kinds of reliability must be intentionally violated in order to gain a depth of understanding about the situation (i.e., the observer's behavior must change from subject to subject, unique questions must be asked of different subjects ... there is an inherent conflict between validity and reliability--the former is what fieldwork is specially

qualified to gain, and increased emphasis on reliability will only determine that unique function[42]."

It is also important at the outset of any research process to be aware of the actual reasoning process the investigator is influenced by since this process may determine the boundaries, perspectives and flaws of the investigation. And since this research project, like most that attempt to utilize a systematic procedure, followed logical reasoning processes, particularly inductive reasoning, inductive characteristics need to be reviewed because -

> "The mental processes through which decisions are reached determine to a large extent the accuracy of conclusions. Facts, of course, are essential materials in thinking, and without facts there can be little thought. But facts must be handled correctly in the mind, or they may lead to inaccurate conclusions. Wrong decisions may be reached even though the facts are right[43]."

The inductive method of reasoning consists of studying individual instances or cases in order to formulate generalized conclusions. This procedure is, of course, followed in most research projects. It would seem apparent, then, that inductive reasoning is the process followed when new facts are being studied, new truths are being uncovered, and new generalizations are being formulated on the basis of information forthcoming.

There seem to be four general conditions, followed in this project, essential for satisfactory induction, which include:

1. Observations must be correctly performed and recorded; data studied must be accurate and must be collected from the universe in which the research is interested. Mistakes in conducting experiments or interviews and faulty recording of the information obtained can destroy the value of any conclusions reached regardless of the quantity of data collected and the soundness of the analysis of these data. The records from which information is taken must be accurate, the meaning clear, and the correctness verifiable.

2. Observations must cover representative cases. If only part of all the persons or items of the kind being investigated are to be studied, observations must cover a representative sample of the universe involved.

3. Observations must cover a sufficient number of cases. In order for a sample to be representative, the number of cases studied must be large enough to provide for the inclusion of the various types of cases that exist in the universe. In addition, the size of the sample must be large enough to reduce the probability of error to an acceptable amount.

4. Conclusions must be confined to statements that are fully substantiated by the findings and are not too general to too inclusive. Conclusions reached after analysis of information based on the study of a number of cases must be confined to statements that are adequately supported by the available data.

The procedures that research projects can take obviously vary, somewhat, in the literature relative to the number and focus of the steps followed. But there is general agreement as to those 'critical' steps required in any investigation. Churchill[44], Tull and Hawkins[45], and Clover and Balsley[46] all agree that the essential steps include:

1. Problem Formulation - exploring primary and secondary sources to determine range of issues and then state objectives for research project;

2. Research Design Rationale -

> "The research design constitutes the blueprint for the collection, measurement, and analysis of data. It aids the scientist in the allocation of his limited resources by posing crucial choices: Is the blueprint to include experiments, interviews, observation, the analysis of records, simulation, or some combination of these? Are the methods of data collection and the research situation to be highly structured? Is an intensive study of a small sample more effective than a less intensive study of a large sample? Should the analysis be primarily quantitative or qualitative?
>
> Research design is the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions and to control variance. The plan is the overall scheme or program of research. It includes an outline of what the investigator will do from writing the hypotheses and their operational implications to the final analysis of the data. The **structure** of the research is ... the outline, the scheme, and paradigm of the operation of the variables .... Strategy ... includes the methods to be used to gather and analyze the data. In other words, strategy implies **how** the research objectives will be reached and **how** the problems encountered in the research will be tackled[47]."

3) Pretest - sample the design variables to ensure the information required to fulfill objectives (or solve problems) is produced from the instruments - revise as required;

4) Full Test, and

5) Analysis and Interpretation - determine convergence and/or divergence of results relative to objectives and develop explanations to account for matches (or mismatches) and implications for future studies.

These steps will now be reviewed as they relate to the process employed in this project.

Objectives

Given the evidence in Chapter 2, and the exploratory support in the first part of this chapter, this exploratory project will examine a bi-national cross-cultural (Britain and Canada) non-probabilistically determined sample of universities and their senior administrators, using multiple-methods survey instruments in order to:

- expand the empirical research base relating to strategic planning tools for identifying an organizations environmental forces and issues;
- provide a means with which to transfer organization-environment concepts to senior university managers, and
- identify areas of strengths and weaknesses relative to the senior university managers' external information networks used to monitor the external forces and issues.

These objectives will be reached by determining to what extent senior university administrators in the two countries share similar opinions concerning:

i) the environmental forces and issues that affect universities;

ii) the environmental forces and issues that are more critical for their respective universities;

iii) the adequacy, sources and types of information available concerning these forces and issues;

iv) the level of flexibility that their universities have to respond to environmental forces and issues;

v) the level of stability of their universities' environments;

vi) the extent of interaction with governmental forces;

vii) the extent of external versus internal orientation of their management duties, and

viii) the level of risk associated with the universities' present strategies relative to the environmental forces and issues.

These opinions can be restated as exploratory propositions which will be assessed, after the data has been analyzed as:

i) environmental forces and issues affect universities in Britain and Canada;

ii) certain environmental forces and issues will be more critical to the respective universities in Britain and Canada;

iii) types and sources of information concerning these environmental forces and issues are adequate;

iv) universities in Britain and Canada are flexible in relation to responding to environmental issues and forces;

v) the universities' environments in Britain and Canada are not stable;

vi) senior university administrators in Britain and Canada have a high level of interaction with their respective governments' departments;

vii) senior university managers, in Britain and Canada, are primarily internal (versus external) in relation to their duties;

viii) senior university managers, within the same university, share a consensus relative to the forces and issues effecting their universities and the level of risk associated with their universities' present policies in dealing with these forces and issues.

Research Design

Utilizing Wiatr's research typology in Table 4[48], the research nature of this project was classified and modelled as exploratory using descriptive objectives and pragmatic strategies (cell A in Table 4).

TABLE 4

RESEARCH TYPOLOGIES

		Objectives	
		Descriptive	**Theoretical**
Strategies	**Pragmatic**	A	B
	Theoretical	C	D

Waitr details the typology rationalization as -

> "... objectives can be presented as a continuum from **descriptive** to **theoretical**; in the second case strategies can also be presented as a continuum from **pragmatic** to **theoretical**. I prefer to talk about continua rather than about dychotomies, because rarely (if ever) are objectives or strategies defined in completely unequivocal terms. Cross-national projects combine elements of theoretical and descriptive-pragmatic approachs in various proportions. The proportions, however, allow us to classify various studies as relatively closer to one or another pole of the continuum. For conceptual purposes, moreover, it is useful to discuss the antinomies as dychotomic; doing this I do not intend to say that empirical projects can be either wholly 'theoretical' or wholly 'descriptive' or 'pragmatic'. In a sense these terms are used here as models. Finally, there is no implicit assumption on my part that 'theoretical' projects are by definition better. What is better depends very clearly on the objectives of the

study; for some purposes a theoretical approach is more essential than for others.

Objectives are defined here as **theoretical** if, when and to the extent to which the researcher aims at formulation, verification and modification of theoretical hypotheses, that is, propositions stated in terms of universally defined variables and not in terms of proper names. Cross-national projects, however, do not necessarily have to aim at formulation, verification and modification of theoretical hypotheses. They may, for instance, aim at establishing patterns of similarity and/or dissimilarity between countries, when the analysis does not intend to extend beyond description of these patterns. Projects are, therefore, defined as **descriptive** if their objectives are stated in terms of establishing similarities and/or dissimilarities between countries, rather than formulating, verifying and modifying general hypotheses. Moreover, my emphasis is on the objectives of the study and not on its potential uses; any study, even the most descriptive one, can bring very useful material for theory, and most theoretically oriented studies produce also descriptive analyses.

Strategies, on the other hand, can be defined as 'theoretical' if considerations of an existing body of theoretical knowledge are **prima facie** factors in determining the options concerned with the selection of countries, the composition of samples, the organization of research, etc.; otherwise, if considerations of expediency dominate, we call strategies **pragmatic.** Elements of pragmatism are inevitably present in all research strategies; the concept of **theoretical strategy** can, therefore, be made operative only in relative terms. Strategies are theoretical if the researchers make a conscious effort to bring theoretical considerations to the forefront of their strategic decisions and depart from theoretically optimal decisions only when pragmatic considerations make compromises the only alternative to complete failure[49]".

Relative to cross-cultural research, though, it is important at the outset to frame the design rationale for three basic reasons.

First, comparisons are made in the cross-national research on at least two levels of observation. The very essence of cross-national research is not that research is done in more than one country but that comparisons of the phenomena under observation are done both within and across countries. The results are cross-national similarities and cross-national dissimilarities. What actually is meant, however, by similarities and dissimilarities depends on theoretical interpretation of data. Relationships across countries are never identical; it is, therefore, a task of researchers to interpret them as similar or different. And the researcher cannot do this unless he has his 'yardstick' and his yardstick can only be the theoretical knowledge of relationships in general[50].

Also, in cross-national research one of the major problems is the equivalence of concepts and indicators related very strongly to formulating cross-nationally valid hypotheses. The problem has two aspects: technical and theoretical. On the technical side researchers are confronted with questions of accuracy of measurement and translation. Important as these questions might be, they are less essential and by far less complex than the theoretical aspects of the equivalence of concepts and indicators. Who participates, in what and for what purpose is not a technical question of measurement but a theoretical question of cross-national conceptualization. Researchers have argued that the extent to which concepts demand cross-nationally relevant theoretical clarification

depends on the complexity of the phenomenon denoted by a concept, and the extent to which the phenomenon is system-specific (differs because of structural conditions within which it takes place). In this sense political participation or community activeness may be more system specific than patterns of the uses of time or images of the world. However, researchers know the nature of specific concepts only on the basis of theoretical knowledge of the way in which various national systems work. What follows, then, is the internationally meaningful way of establishing equivalence of indicators by an analysis of the theoretical content of concepts[51].

Finally, cross-national research has also to take into consideration the potential impact of the systemic context on observed relationships. By definition, researchers compare phenomena within and across countries. If the study aims at establishing theoretical generalizations, it treats countries as sets of variables which, optimally, could be identified without the use of the names of countries. This, however, is an ideal which research can never achieve, since there are always too many potentially relevant variables and too few countries for comparisons. As a result, researchers are left with a large body of unexplained variations, to which we refer in descriptive terms. Theoretical knowledge of the systemic context can help, however, in suggesting at least hypothetical explanations of these descriptive

dissimilarities (or, for that matter, similarities). Countries can be defined in terms of:

a) patterns of the national traditions, particularly inasmuch as these traditions are likely to influence modes of behaviour and norms prevailing in a given national community;

b) legal structure of political, economic and other institutions which establish rules obligatory for all those who live within the jurisdiction of a nation-state;

c) dominant ideological framework, and

d) level of socio-economic development. In this sense differences and/or similarities between Britain and Canada, for example, can be discussed simultaneously in terms of the potential impact of national traditions, institutional arrangements and ideological framework[52].

The specific construct of the design, though, can be classified using Emory's seven different categorizations, including:

1. the degree to which the research problem has been crystallized (the study may be either exploratory or formal);

2. the method of data collection (studies may be observational or survey);

3. the power of the researcher to affect the variables under study (the two major types of research are the experimental and the ex post facto);

4. the purpose of the study (research studies may be descriptive or causal);

5. the time dimension (research may be cross-sectional or longitudinal);

6. the topical scope--breadth and depth--of the study (a case or statistical study), and

7. the research environment (most business research is conducted in a field setting, although laboratory

research is not unusual; simulation is another category, somewhat similar to laboratory research)[53].

The distinction between these seven design categories, for the present research project, will now be discussed.

a) **Degree of problem crystallization.** A study may be viewed as exploratory or formal. The essence of the distinction between these two is the degree of structure and the immediate objective of the study. Exploratory studies tend to be less formalized with an objective of learning what the major research tasks are to be. In fact, the immediate purpose of exploration is usually to develop hypotheses or questions for further research. The formal study begins where the exploration leaves off--it begins with a hypothesis or question and involves precise procedures and data source specifications. The goal of a formal research design is to test the hypotheses or answer the research questions posed. Clearly, this research study is therefore exploratory.

b) **The method of data collection.** This classification distinguishes between observational and survey data collection processes. In the first, the researcher monitors and records information about subjects without questioning them.

In a survey design, the researcher interrogates subjects and collects their responses. Studies of this type may be further classified by the communication medium used--mail, telephone, or personal interview. The term **survey** is often used to describe what is more properly called an **ex post facto design**, reviewed below. This research project utilized primarily survey processes with multiple methodologies--mail and interview instruments (the telephone was also used but only in the case of missed appointments or misplaced questionnaires).

c) **Research control of variables.** In terms of the researcher's ability to manipulate variables, there are experimental and ex post facto designs. In an experiment, the researcher attempts to control and/or manipulate the variables in the study. It is enough that the researcher can cause variables to be changed or held constant in keeping with our research objectives. Experiential design is appropriate when research wishes to determine whether certain variables affect other variables in some

way. Experimentation provides the most powerful support possible for a hypothesis of causation.

With an ex post facto design, researchers have no control over the variables in sense of being able to manipulate them. They can only report what has happened or what is happening. It is important in this design that the researchers not influence the variables; to do so would obviously introduce bias. The researcher is limited to holding factors constant by judicious selection of subjects according to sampling procedures and by qualitative and quantitative analysis of findings. The present project, therefore, fits the ex post facto categorization and controls.

d) **The purpose of the study.** The major difference between descriptive and causal studies relates to their objectives. If the research is concerned with finding out who, what, where, when, or how much, then the study is descriptive. If it is concerned with learning why, i.e., how one variable affects another, it is causal.

The nature of descriptive/causal studies is sometimes confused with that of experimental/ex post facto studies. This confusion comes from the fact that experimental studies are concerned with causation questions. In addition, descriptive studies are normally ex post facto. Based on these distinctions, the current project is classified as descriptive.

e) **The time dimension.** In terms of time coverage, research designs can be classified as either cross-sectional or longitudinal. Cross-sectional studies are carried out once, while the longitudinal are repeated. The longitudinal study allows one to study changes over time. The panel study is a common type of longitudinal study that is widely used to study changes in particular groups. Cross-sectional is the nature of the current project.

f) **The topical scope.** Along this dimension, studies may be statistical or case designs, although the difference between the two is one of degree. In the statistical study, researchers sample a cross section of data with the emphasis on breadth of coverage. Interest is in the frequency with which certain characteristics or instances occur. If utilizing a case-study approach, emphasis would be on the detailed analysis of a limited number of events or conditions and their interrelationships. Case-study analysis is concerned more with interactive

processes. This project is classified, therefore, as case design.

g) **The research environment.** Designs also differ as to whether they take place under actual environmental conditions or under artificial or simulated conditions. These are called field and laboratory studies, respectively. The main distinction relates to whether or not the study is of subjects under normal conditions for the problem being studied.

To simulate is to replicate the essence of a system or process. The major characteristics of various conditions and relationships in actual situations are often represented in mathematical models. Role playing and other behavioral activities may also be viewed as simulations. The environment for this research project is in the field.

The details of the sampling rationale will now be reviewed and discussed relative to the aforementioned design framework variables.

Sampling Rationale

Adapted from Tull and Hawkins' framework, Table 5[54] summarizes the sampling parameters used.

TABLE 5

PRIMARY CONSIDERATIONS IN SAMPLING

a)	Population	- determining who/what can provide information to meet research objectives and address descriptive propositions
b)	Sampling Frame	- developing list of population members
c)	Sampling Unit	- determining the basis for drawing the sample
d)	Sampling Method	- determining how the sample will be selected
e)	Sample Size	- determining how many population members are to be included in the sample
f)	Sample Plan	- developing a method for selecting and contacting the sample members

a) Population

From the aforementioned 'exploration stage' evidence, it was obvious that the key primary information sources would include the President, Vice-Presidents (or their designated equivalents), Registrar, and Planning Officer in the Canadian university system. Their equivalents in the British system would include the Vice-Chancellor (or Principal), the Pro-Vice-Chancellors, the Secretary, the Registrar, and the Planning Officer. The relevance, equivalence, and suitability of

using these population targets was confirmed, and deduced, from secondary information sources including:

- the Commonwealth Universities Yearbook reviews of both British and Canadian university systems' descriptions of the history, constitution, government, finance, and organizations of both systems[55-56];
- reviews of both respective governments' descriptions of the Canadian and British university systems[55,58] and
- reviews of university prospectus (calendars)[59,60], annual reports[61-62], and charters[63,64] from schools in both Britain and Canada.

b) Sample Frame

From the University Grants Committee (UGC) 'Form 3' details[65], in Britain, and the Statistics Canada Higher Education details[66], it was possible to develop a list of the two countries university populations. Tables 6, 6A, and 6B summarize this data, for the British system, relative to student population and total reported income figures. Tables 7, 7A, and 7B summarize the data for the Canadian systems.

TABLE 6

UNIVERSITIES IN BRITAIN - SAMPLE FRAME STATISTICS

University	Country[1]	Income[2] (L 000,000)	Student Population		
			FT	PT	Total
Aberdeen	S	31.6	5,495	472	5,967
Aston in Birmingham	E	23.3	4,606	461	5,067
Bath	E	19.2	3,581	258	3,839
Queen's (Belfast)	I	35.5	6,559	1,005	7,564
Birmingham	I	49.1	8,643	970	9,613
Bradford	E	22.4	4,680	621	5,301
Bristol	E	41.1	7,117	383	7,500
Brunel	E	17.2	2,657	1,395	4,052
Cambridge	E	64.6	11,444	1,304	12,748
City	E	11.1	2,751	384	3,135
Dundee	E	21.1	3,644	116	3,760
Durham	E	21.9	4,728	125	4,853
East Anglia	E	19.5	4,219	407	4,626
Edinburgh	S	62.9	9,859	1,167	11,026
Essex	E	12.6	3,184	193	3,377
Exeter	E	19.3	4,837	751	5,588
Glasgow	S	54.7	9,980	1,824	11,804
Heriot-Watt	S	15.8	3,342	357	3,699
Hull	E	18.9	5,390	495	3,885
Keele	E	11.8	2,763	238	2,991
Kent	E	15.0	4,143	384	4,527
Lancaster	E	17.1	4,527	436	4,963
Leeds	E	53.6	10,532	673	11,205
Leicester	E	22.5	4,823	489	5,312
Liverpool	E	47.6	7,487	502	7,989
London[3]	E	367.9	40,893	8,854	49,747
Loughborough	E	24.3	5,555	817	6,372
Manchester	E	63.3	18,253		18,253
MIST	E	25.3	4,576	133	4,709
Newcastle	E	40.7	7,547	460	8,007
Nottingham	E	35.9	6,835	649	7,484
Open[4]	E	68.1	150	100,691	100,841
Oxford	E	67.5	12,322		12,322
Reading	E	25.3	5,761	760	6,521
St. Andrews	S	15.4	3,627	69	3,696
Salford	E	20.1	4,122	566	4,688
Sheffield	E	40.3	7,712	601	8,313
Southhampton	E	35.9	6,120	414	6,534
Stirling	S	11.5	2,640	331	2,971
Strathclyde	S	31.9	6,882	320	7,202
Surrey	E	17.6	3,261	513	3,774
Sussex	E	21.3	4,328	435	4,763
Ulster	I	9.3	2,060	299	2,359
Wales (Registry)[5]	W	92.5	19,403	1,149	20,552
Aberystwyth	W	12.8	3,166	74	3,240

Table 6 (Continued)

University	Country[1]	Income (L 000,000)	Student Population		
			FT	PT	Total
Bangor	W	15.1	2,783	191	2,974
Cardiff	W	22.5	5,312	521	5,833
Swansea	W	17.5	3,912	217	4,129
UWIST	W	12.7	2,812	66	2,878
Lampeter	W	2.4	70	12	718
School of Medicine	W	9.5	712	68	780
Warick	E	22.9	5,228	452	5,680
York	E	14.5	3,427	152	3,579

NOTES: (List does not include Buckingham, Cranfield, and Royal College of Art.)

[1]E - England; I - Ireland; S - Scotland; W - Wales

[2]1982

[3]includes Graduate School of Business

[4]funded directly from DES as are the Irish schools

[5]includes totals of all Welsh schools

TABLE 6A

UNIVERSITIES IN BRITAIN - SAMPLE FRAME SUMMARY

Universities	Income (L 000,000)	Students	Income/Student
Specials:			
Cambridge	64.6	12,748	5,067
Oxford	67.5	12,322	5,478
London	367.9	49,747	7,395
Open	68.1	100,841	675
Sub-total Specials:	568.1	175,658	3,234
Regular:			
England (31)	829.3	193,337	4,289
Scotland (8)	244.9	50,125	4,779
Wales (7)[1]	92.5	20,552	4,501
N. Ireland (2)	44.8	9,923	4,515
Sub-total Regulars:	1,211.5	273,937	4,423
Total All	1,779.6	449,595[2]	3,958

NOTES:

[1]The Registry does not offer courses for students.

[2]Total full-time - 311,693 (69%) and part-time - 137,902 (31%)

TABLE 6B

UNIVERSITIES IN BRITAIN - SAMPLE FRAME STRATIFICATION

		University Location				
Students	**Specials**	**England**	**Wales**	**Scotland**	**N. Ireland**	**Total**
0 - 3,000		1	4	1	1	7 (13%)
3,000 - 5,000		13	2	3		18 (35%)
5,000 - 8,000		13	1	2	1	17 (33%)
8,000 - 11,000			2			2 (4%)
11.000 -	4	2	2	-	-	—
Total	4	31	7	8	2	52 (100%)
Income (L 000,000)						
0 - 15		5	4	1	1	11 (21%)
15 - 25		15	3	3	3	21 (40%)
25 - 40		5		2	1	8 (15%)
40 - 55		5		1		6 (12%)
55 -	4	1	-	1	1	—
Total	4	31	7	8	2	52 (100%)

TABLE 7

UNIVERSITIES IN CANADA - SAMPLE FRAME STATISTICS

University	Province[1]	Income[2] ($ 000,000)	Student Population[2]		
			FT	PT	Total
Acadia	NS	20.5	3,044	959	4,003
Alberta	AB	155.1	21,012	3,638	24,650
Athabasca	AB	10.9	--	9,838	9,838
Bishop's	PQ	8.0	836	668	1,504
Brandon	MN	14.3	1,387	1,477	2,864
British Columbia	BC	255.2	20,690	5,141	25,831
Brock	ON	21.3	3,437	3,928	7,365
Calgary	AB	120.3	13,426	3,090	16,516
UCC Breton	NS	9.8	1,517	896	2,413
Carleton	ON	65.6	9,492	5,737	15,229
Concordia	PQ	103.9	11,724	12,872	24,596
Dalhousie	NS	72.2	7,584	1,677	9,261
Guelph	ON	127.0	10,722	1,343	12,065
Lakehead	ON	18.1	2,998	1,566	4,564
Laurentian	ON	22.0	2,684	2,331	5,015
Laval	PQ	220.1	18,603	7,481	26,084
Lethbridge	AB	20.8	2,198	476	2,674
McGill	PQ	204.1	16,671	4,438	21,109
McMaster	ON	90.2	11,129	3,825	14,954
Manitoba	MN	158.9	14,509	6,784	21,293
Memorial	NF	95.6	9,288	4,357	13,645
Moncton	NB	35.0	3,662	2,125	5,787
Montreal	PQ	224.4	18,233	21,391	39,624
Mount Allison	NB	11.2	1,636	79	1,715
Mount Saint Vincent	NS	19.7	1,992	1,363	3,355
New Brunswick	NB	62.1	7,035	2,188	9,223
Ottawa	ON	95.4	12,079	7,685	19,764
Prince Edward Island	PEI	10.6	1,596	663	2,259
Quebec	PQ	287.6	21,698	39,787	61,485
Queen's	ON	109.0	11,396	3,327	14,723
Regina	SK	32.6	4,759	4,521	9,280
Saint Francis Xavier	NS	17.0	2,419	608	3,027
Saint Mary's	NS	15.3	2,818	1,428	4,246
Saskatchewan	SK	96.7	11,763	1,307	13,070
Sherbrooke	PQ	86.6	7,258	3,423	10,681
Simon Fraser	BC	84.8	7,592	7,309	14,961
Tech. Univ. of NS	NS	8.6	909	83	992
Toronto	ON	464.6	34,670	16,351	51,021
Trent	ON	13.3	2,410	1,220	3,630
Victoria	BC	66.2	6,726	4,227	10,953
Waterloo	ON	87.9	15,820	6,960	22,780
Western Ontario	ON	185.4	19,482	7,211	26,693
Wilfrid Laurier	ON	24.4	4,249	6,382	10,631
Windsor	ON	54.7	8,300	9,366	17,666

Table 7 (Continued)

University	Province[1]	Income[2] ($ 000,000)	Student Population[2]		
			FT	PT	Total
Winnipeg	MN	16.4	2,932	4,498	7,430
York	ON	148.0	15,020	15,179	30,199

NOTES: (List does not include College of Theology - PQ; University of King's College - NS; Agricultural College - NS; College of Arts - NS; Royal Military College - ON; Roads Military College - BC; Ryerson - ON)

[1]AB - Alberta; BC - British Columbia; MN - Manitoba; NB - New Brunswick; NF - Newfoundland; NS - Nova Scotia; ON - Ontario; PEI - Prince Edward Island, PQ - Quebec; SK - Saskatchewan.

[2]1982

[3]Includes seven campuses of Chicoutimi, Hull, Montreal, Rimouski, Trois-Rivieres, Abitibi, Techiqual Supplement (similar to Wales structure)

TABLE 7A

UNIVERSITIES IN CANADA - SAMPLE FRAME SUMMARY

Universities		**Income** ($ 000,000)	**Students**	**Income/Student**
Alberta	(4)	307.1	53,678	5,721
British Columbia	(3)	406.2	51,685	7,859
Manitoba	(3)	189.6	31,587	6,002
New Brunswick	(3)	108.3	16,725	6,475
Newfoundland	(1)	95.6	13,645	7,006
Nova Scotia	(7)	146.3	26,897	5,483
Ontario	(15)	1,526.9	256,299	5,958
Prince Edward Island	(1)	10.6	2,259	4,692
Quebec	(13)	1,134.7	185,083	6,131
Saskatchewan	(2)	129.3	22,350	5,785
Totals	52	4,054.6	660,208[1]	6,141

NOTE:

[1] Includes full-time - 409,005 (62%) and part-time 251,203 - (38%)

TABLE 7B

UNIVERSITIES IN CANADA - SAMPLE FRAME STRATIFICATION

University Location - Provincial

Students	**AB**	**BC**	**MN**	**NB**	**NF**	**NS**	**PEI**	**ON**	**PQ**	**SK**	**Total**	
0 - 3,000	1		1	1		2	1		1		7	(13%)
3,000 - 5,000						4		2	2		8	(15%)
5,000 - 8,000			1	1				2	4		8	(15%)
8,000 - 11,000	1	1		1		1		1	2	1	8	(15%)
11,000 -	2	2	1	_	1	_	_	10	4	1	21	(42%)
Total	4	3	3	3	1	7	1	15	13	2	52	(100%)

Income ($ 000.000)												
0 - 15	1		1	1		3	1	1	1		9	(17%)
15 - 35			1			3		4	2	1	11	(21%)
35 - 55				1					3		4	(8%)
55 - 75	1			1		1		1	3		7	(13%)
75 -	2	3	1	_	1	_	_	9	4	1	21	(41%)
Total	4	3	3	3	1	7	1	15	13	2	52	(100%)

c) Sampling Unit

The basic unit utilized for drawing the sample was the 'university' unit. This unit was deemed to be the most efficient, equivalent, compatible and representative categorization across the two countries' higher education systems.

d) Sampling Method

The sampling methodological options considered are classified in Table 8[67]. Under the representation classification, probability sample refers to the concept of random selection as a controlled procedure where each population element has a nonzero chance of selection. Nonprobability selection is nonrandom and each member does not have a nonzero chance of inclusion. Unrestricted sampling implies that each sample element is drawn individually from the population and restricted sampling covers all other forms of sampling[68].

TABLE 8

SAMPLE METHODOLOGY ALTERNATIVES

	Representation Basis	
Element Selection	Probability	Nonprobability
Unrestricted	Simple Random	Convenience
Restricted	Complex Random	Purposive

Nonprobabilistic purposive sampling was utilized for this project for the following reasons:

1. the objectives of this project did not require developing a true cross-section of the total populations in both countries;

2. the total population could not be surveyed to determine the information required to address the research objectives;

3. cross-cultural exploratory research, as detailed in the aforementioned 'exploratory' phase of this chapter, matches effectively with the purposive requirements of conforming to specified criteria[69] (such as availability and willingness to partake in the project);

4. the universities chosen matched most of the general equivalence measures of representation, including size of administrative team, organizational age (since charter), total student size, total income, government grants and student fees as a percentage of total income[70]. Table 9 reviews these and other data;

5. it was unlikely that all targeted respondents would be available to participate;

6. it was deemed important to have universities in Canada selected from the Nova Scotian population due to the perceived equivalence in external government pressures (the Royal Commission in Nova Scotia and the UGC's '29 Questions' were deemed equivalent forces);

7. the geographic scope of Canada necessitated incorporating a more focused area sampling[71], closer to the Eastern Canada home base of this researcher in order to carry out the physical on-site surveys, and

8. the four universities' Presidents and Vice-Chancellors all wanted to participate since these schools were all attempting to initiate strategic planning policies (and these senior administrators' permission was prerequisite for 'encouraging' the other administrators to participate).

TABLE 9

SAMPLE EQUIVALENCE DATA

	University			
	Bath	**MSVU**	**Birmingham**	**Dalhousie**
Established	1894	1873	1880	1818
Fully Chartered	1966	1966	1900	1883
Senior Administrator	V-C	Pres.	V-C and Princ.	Pres.
#Vice-Level	2	2	2	4 (3)[1]
Planning Officer	1	1	-	1
Registrar	1	1	1	1
Secretary/Designate	1[2]	1[3]	1	1[3]
Total Students	3,839	3,355	9,613	9,261
# New Admissions[4]	34%	31%	39%	44%
Total Income[5]	19.2	11.6	49.1	45.5
% Grant	60%	60%	61%	64%
% Fees	23%	20%	20%	18%
% R & D	13%	7%	13%	10%
Major Academic Orientation[6]	S & P	S & P	F	F
International Affiliation[7]	ACU/OECD	AUC/OECD	AUD/OECD	AUD/OECD
Government Grant Control[8]	DES/UGC	DE/MPHEC	DES/UGC	DE/MPHEC
Industry-University Ventures/Companies	Yes	Yes	Yes	Yes

NOTES:

[1]The Vice-President of Research's and the Vice-President of Plannings' roles are going to be merged

[2]The Secretary and Registrar are the same person

[3]The Secretary's position is under the designation of V-P Finance

[4]1982 (new admissions for courses, not just new students)

[5]1982 - the exchange rate used is L 1 = $1.72 (average for 1982)

[6]S & P - Science and Professional Studies

[7]ACU - Association of Commonwealth Universities

[7]OECD - Organization for Economic Cooperation and Development

[8]DES - Department of Education and Science
UGC - University Grants Committee
DE - Provincial Department of Education
MPHEC - Maritime Provinces (New Brunswick, Nova Scotia, Prince Edward Island) Higher Education Committee

e) Sample Size

To optimize the breadth and depth of the survey instruments required to address the research objectives, a typical cross-cultural exploratory sample[72], of four organizations, was targeted. Table 10 presents the sample size targets for these two larger and older, and two relatively smaller and newer universities.

f) Sample Plan

The selection process was straightforward since these sample targets would be required in order to address the research objectives. The contact process involved:

a) contacting the Vice-Chancellors and Presidents by telephone, to introduce myself and to briefly discuss the research project, objectives and time requirements;

b) sending a follow-up cover letter to these senior administrators reviewing the details, discussed by phone, and asking them formally for permission to use them and the other sample targets in the project. They were also asked to contact these other targets, informally, to let them know that I would be also contacting them;

c) contact other administrators by phone and letter to obtain their consent to participate;

d) establish a tentative interviewing and survey mailout schedule, as seen in Table 11, based on the tentative availability of the administrators--as assessed during the initial contact with them.

TABLE 10

SAMPLE SIZE TARGET

	University			
Administrator	**Bath**	**MSVU**	**Birmingham**	**Dalhousie**
Vice-Chanc/Pres	Prof. Quayle	Prof. Fulton	Prof. Marshland	Prof. MacKay
PV-C/V-P	Prof. Thomas	Prof. Jones	Prof. Fage	Prof. Sinclair
PV-C/V-P	Prof. Eastham	Prof. Uhl	Prof. Samuels	Mr. Shaw
PV-C/V-P		Prof. Clark	Prof. Jinks	Prof. Cameron
PV-C/V-P		Prof. Mullins		Prof. Klassan
Registrar	Mr. Mawditt	Ms. Morris	Mrs. Hutton	Prof. Tingley
Secretary	Mr. Mawditt	Ms. Uhl	Mr. Harris	Mr. Shaw
Planning Officer	Prof. Taylor	Prof. Ingalls		Mr. Travesy

TABLE 11

SAMPLE TARGET CONTACT SCHEDULE

	University			
Contact Focus	**Bath**	**MSVU**	**Birmingham**	**Dalhousie**
1st Interviews	June-Aug./83	Sept.-Dec./83	June/84	June-Apr./84
2nd Interviews	June-Aug./84	May 1984	July/Aug./84	May/84
Questionnaires	Aug./83	Dec./83	June/84	Apr./84

Measurement

To obtain the information required to address the stated research objectives, multiple-methodology, or between/across methods triangulation, was utilized in the form of four primary instruments.

Jick describes triangulation as -

> "... the combination of methodologies in the study of the same phenomena. The triangulation metaphor is from navigation and military strategy that use multiple reference points to locate an object's exact position ... similarly, organizational researchers can improve the accuracy of their judgements by collecting different kinds of data bearing on the same phenomena[73]."

Denzin describes between/across methods triangulation as -

> "... the most popular use of triangulation ... a vehicle for cross-validation when two or more distinct methods are found to be congruent ...[74]."

Given the aforementioned design and sampling perspectives, triangulation was chosen as the optimal choice due to the inherent cross-validation and linkage potential.

The first instrument developed was the Situational Overview Questionnaire (SOQ). Exhibit 1 reviews the open-ended questions asked of all respondents during their four-hour interviews. Exhibit 1A reviews the rationale for both the order and focus of the SOQ questioning, utilizing Churchill's questionnaire design process[75].

EXHIBIT 1

SITUATIONAL OVERVIEW QUESTIONNAIRE

1. In your current position as _____, what are your major duties/responsibilities?

2. How do these relate to the overall planning activities for your university? Strategic planning?

3. What are the kinds/types of decisions you make or get involved with? (formal/informal, internal/external)

4. For these decision activities, what kinds/types of information do you use for support? (formal/informal, internal/external, primary/secondary)

5. What kinds/types of information do you regularly receive? (internal/external, daily/weekly, monthly)

6. Have you ever requested special studies information - examples?

7. Is there any information you would like to receive re: your duties/responsibilities?

8. What topics, relative to your duties, would you like to be kept informed of?

9. What are the major issues facing universities in this country?

10. Are there any that are particularly relevant to your university? Why?

11. Which external bodies and forces affect/influence your university?

12. Are some of these more crucial to your university? Why?

13. How do you stay in touch with these forces/influences? (primary/secondary, written/personal, formal/informal)

14. What internal sources of information do you use to monitor these forces? (regular flow/solicit)

15. What are your major sources of external information? Internal information? (primary/secondary, govt./universities/business/other, personal/written)

16. Who provides you with the information you use for any planning activities you are involved in?

Exhibit 1 (Continued)

17. Who do you provide information to re: planning?

18. Have the external forces affecting your university changed? When? How?

19. Is your university's external environment more or less stable since this change?

20. Is your university more or less flexible re: its ability to operate/plan in this environment? Why?

21. Has your university ever been caught off guard, or missed an opportunity, re: external issues?

22. Does your university have an external information network? Has it improved? Evidence? (formal/informal, personal/written, primary/secondary, govt./university/business/other)

23. What issues will be important over the next decade for your university? Why?

24. Is your university prepared to deal with these? How?

EXHIBIT 1A

SITUATIONAL OVERVIEW QUESTIONNAIRE FOCUS RATIONALE

Question		Focus
A:	1	- job responsibilities, committees, orientation
	2	- timeframe, cohesiveness, methodology, planning elements
	3	- group orientation, contacts, focus
B:	4	- reports, personal contact, regularity, linkage
	5	- develop #4 detail, source orientation
	6	- overlap from #4, #5, rationale
	7	- linkage between #3-#6
	8	- micro/macro orientation, linkage between A-B groups
C:	9	- macro orientation
	10	- macro/internal focus
	11	- breadth/depth of focus, linkage between #9, #10
	12	- internal/macro focus
D:	13	- bridge A-C, dynamics, macro/micro
	14	- overlap from #13, micro
	15	- dominant focus, C linkage
	16	- personnel bridge, B-C linkage
	17	- overlap from #16, micro
E:	18	- macro future, D linkage
	19	- macro future
	20	- micro current, B-D linkage
	21	- micro past, A-D linkage
	22	- micro current, D linkage
	23	- macro future, B-C linkage
	24	- micro current, A-E overview

The second instrument developed was the Issues Sector Information Matrix (ISIM). This instrument would enable respondents to identify their respective sources of information with which they monitor the major external issues they identified in their SOQ interviews. Exhibits 2 and 2A review both the instructions and the instrument structure of the ISIM.

The third instrument developed was designed to measure the respondents Government Information Networks (GIN), since the exploratory evidence suggested that government contacts (and information) were critical for any university planning activities. Exhibits 3 and 3A review the GIN questionnaires for the British and Canadian respondents, respectively.

EXHIBIT 2

SOURCES OF EXTERNAL INFORMATION

Procedure:

On the attached page you will find a brief questionnaire which lists the issues you felt were important in regards to university management.

For each issue listed, you simply have to place a check-mark in the appropriate boxes to show the various sources of information you use to stay in touch with these issues.

For example, if you have a personal contact, friend or associate in the local business sector, and you obtain verbal information from him/her, you would place a check-mark under the **Person** column in the **Local** section under the **BUSINESS/INDUSTRY** sector. If you mainly received written information, you would place a check-mark under the **Written** column. If you received a combination of verbal and written information, you would place a check-mark in each column.

This is the procedure you follow for each sector. Conceivably, you could have a check-marks across all boxes.

What we are trying to explore is the breadth of information sources used by senior university officers to stay in touch with those issues they feel are important.

EXHIBIT 2A

ISIM LINKAGES

P - Personal
W - Written
L - Local
N - National
F - Foreign

Sector	BUSINESS/INDUSTRY						GOVERNMENT						UNIVERSITIES						ACADEMIC BODIES/ASSOCIATION						PROFESSIONAL BODIES/ASSOCIATION							
Location	L		N		F		L		N		F		L		N		F		L		N		F		L		N		F			
Info Source	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	T	%
Issues																																

EXHIBIT 3

BRITISH GOVERNMENT INFORMATION NETWORK

1 - N/A
2 - Personal Contact
3 - Written Contact

Government

1.	Agriculture, Fisheries, Food	1	2	3
2.	Customs and Excise	1	2	3
3.	Defence	1	2	3
4.	DES	1	2	3
	- Research Councils	1	2	3
5.	Employment	1	2	3
6.	Energy	1	2	3
7.	Environment	1	2	3
8.	Export Credit	1	2	3
9.	Foreign and Commonwealth	1	2	3
10.	Health and Social Security	1	2	3
11.	Home Office	1	2	3
12.	Industry	1	2	3
13.	Information	1	2	3
14.	Inland Revenue	1	2	3
15.	Law Officers	1	2	3
16.	Lord Chancellor	1	2	3
17.	Management and Personnel	1	2	3
18.	Ordnance Survey	1	2	3
19.	Overseas Development	1	2	3
20.	Parliamentary Counsel	1	2	3
21.	Paymaster General	1	2	3
22.	Population Census and Survey	1	2	3
23.	Procurator General	1	2	3
24.	Stationery	1	2	3
25.	Trade	1	2	3
26.	Transportation	1	2	3
27.	Treasury	1	2	3

Exhibit 3 (Continued)

28. Welsh Office	1	2	3

Municipal Government

1.	1	2	3
2.	1	2	3
3.	1	2	3

EXHIBIT 3A

GOVERNMENT INFORMATION NETWORK

1 - N/A
2 - Personal Contact
3 - Written Contact

Federal Government

1.	Agriculture	1	2	3
2.	Consumer and Corporate Affairs	1	2	3
3.	National Defence	1	2	3
4.	Environment Canada	1	2	3
5.	External Affairs	1	2	3
6.	Fisheries and Oceans	1	2	3
7.	Health and Welfare	1	2	3
8.	Industry/Trade/Commerce	1	2	3
9.	Labour	1	2	3
10.	National Research Council	1	2	3
11.	Statistics Canada	1	2	3
12.	Supply and Services	1	2	3
13.	Transport	1	2	3
14.	Veteran Affairs	1	2	3
15.	Communications	1	2	3
16.	Energy/Mines/Resources	1	2	3
17.	Indian/Northern Affairs	1	2	3
18.	Revenue	1	2	3
19.	Employment/Immigration	1	2	3
20.	Treasury Board	1	2	3
21.	Ministry of State for Economic Development	1	2	3
22.	Finance	1	2	3
23.	Justice	1	2	3
24.	Auditor General	1	2	3
25.	Public Works	1	2	3
26.	Regional/Industrial Expansion	1	2	3
27.	Minister of State Science/Tech	1	2	3

Exhibit 3A (Continued)

28.	Secretary of State	1	2	3
29.	Social Development	1	2	3

Provincial Government

1.	Agriculture/Marketing	1	2	3
2.	Culture/Fitness/Recreation	1	2	3
3.	Development	1	2	3
4.	Education	1	2	3
5.	Environment	1	2	3
6.	Labour/Manpower	1	2	3
7.	Mines/Energy	1	2	3
8.	Social Services	1	2	3
9.	Tourism	1	2	3
10.	Treasury Board	1	2	3

Municipal Government

1.		1	2	3
2.		1	2	3
3.		1	2	3

The fourth, and final, instrument, would measure the respondents' opinions concerning the environmental forces detailed in their SOQ relative to the seven critical planning and decision-impacting variables, aforementioned by Janis and Mann[76]. Exhibits 4 and 4A review the guideline instructions, and the scaled questionnaires completed for each external force discussed in the respondents' SOQ.

The planned cross-linkages and information focus between these four instruments and this project's research objectives are detailed in Table 12. From this table it can be seen how the triangulation effect has been utilized to enhance the information gathering ability of the instruments. Table 13[77] reviews the major measurement options considered in developing the aforementioned instruments which were based upon questionnaire and attitude rating scale techniques.

EXHIBIT 4

EXTERNAL FORCES INFLUENCING UNIVERSITIES

Procedure:

During our recent interview concerning university management and administration, we discussed a variety of external forces that you felt had an influence on your university. Below I have listed those you mentioned during our discussions.

Enclosed you will find several questionnaire forms, each with seven short questions. At the top of each form I have named one of the external forces mentioned by you. Please complete these forms by circling the appropriate number (1-5) for each question. I have also enclosed several blank forms in case you feel there are other forces that should be added to your list.

Thank you again for your assistance in this matter, and I will forward the results, if you wish, for your university, to you once I have received the forms and analyzed them.

External Forces mentioned during interview:

1)
2)
3)
4)
5)
6)
7)
8)
9)
10)
11)
12)

EXHIBIT 4A

EXTERNAL FORCE: _____

1. **Current Risk** - Currently, is there any **risk** for your university in the way it is (or is not) dealing with this force?

Little Risk With Current Policies				Great Risk
1	2	3	4	5

2. **Future Risk** - Do you believe there is any risk involved for your university if it changes policies regarding this external force?

Little Risk				Great Risk
1	2	3	4	5

3. **Potential Opportunities** - Do you believe there could be potential benefits/opportunities for your university if it redirected its policies regarding this external force?

Little Chance for Gain				Great Chance
1	2	3	4	5

4. **Future Impact** - Do you believe that this external force will still be important relative to the influence it may have on your university, in 3-5 years from now?

Little Importance				Great Importance
1	2	3	4	5

5. **Time Available** - Is there time available for your university to redirect or develop policies regarding this force?

Little Time				Much Time
1	2	3	4	5

Exhibit 4A (Continued)

6. **Policy Implementation** - Based on your assessment of your university's resources, and the magnitude of this force, how easily do you think your university could implement new policies regarding this force?

Little Difficulty				Great Difficulty
1	2	3	4	5

7. **Information** - How sufficient is your university's information base concerning this external force?

Little Information				Much Information
1	2	3	4	5

TABLE 12

BETWEEN METHODS LINKAGE WITH INSTRUMENTS AND RESEARCH OBJECTIVES

Information	Information Focus	Objective Focus
SOQ (interview)	issues	1, 2
	forces	1, 2
	information networks	3
	environmental stability	5
	organizational flexibility	4
	internal/external focus	7
ISIM (mail)	issues	1, 2
	information networks	3
	information location	3, 6
	information sector	1, 6
EFQ (mail)	forces	1, 2
	risk	4, 5, 8
	opportunities	1, 2, 4, 8
	impact	5, 8
	timeframe	4, 8
	information	3, 6
GIN (interview)	government contacts	3, 6, 7
	information network	3, 6, 7
	information type	3, 8

TABLE 13

PRIMARY MEASUREMENT TECHNIQUES

I. **Questionnaire** - a formalized instrument for asking information directly from a respondent concerning behavior, demographic characteristics, level of knowledge, and/or attitudes

II. **Attitude Scales** - a formalized instrument for eliciting self-reports of beliefs and feelings concerning an object(s)

   A. **Rating scales** - require the respondent to place the object being rated at some point along a numerically valued continuum or in one of a numerically ordered series of categories

   B. **Composite scales** - require the respondent to express a degree of belief concerning various attributes of the object such that the attitude can be inferred from the pattern of responses

   C. **Multidimensional scales** - derive the components or characteristics an individual uses in comparing similar objects and provide a score for each object on each characteristic

   D. **Conjoint analysis** - derive the value an individual assigns to various attributes of a product

III. **Observation** - the direct examination of behavior or the results of behavior

IV. **Projective Techniques and Depth Interviews** - designed to gather information that respondents are either unable or unwilling to provide in response to direct questioning

   A. **Projective techniques** - allow respondents to project or express their own feelings as a characteristic of someone or something else

   B. **Depth interviews** - allows individuals to express themselves without any fear of disapproval, dispute, or advice from the interviewer

Pretest

The pretest was conducted utilizing a partial sample of the senior administrative team from Bath University and Oxford University, in England, and the University College of Cape Breton and Mount Saint Vincent University, in Canada. The contacts and focus for these respondents during the pretest are detailed in Table 14. These pretests were carried out during the summer of 1983, in Britain, and early fall of 1983, in Canada. Verba succinctly summarizes the experiences of his pretest projects (and those experienced in this project) as -

> "1. Nobody ever does research the way books and people who tell you how to do research tell you how to do it.
> 2. Everything takes more time.
> 3. Everything costs more money[78]."

TABLE 14

PRETEST ORIENTATION

Administrator	Position	University	Pretest Instrument Focus
Prof. Thomas	Senior Pro-Vice-Chancellor	Bath	SOQ, ISIM, EFQ, GIN
Prof. Taylor	Planning Officer	Bath	SOQ, GIN
Mr. Mawditt	Secretary/Registrar	Bath	SOQ
Mr. Butler	Secretary of Faculties	Oxford	SOQ, ISIM, GIN
Prof. Dorey	Registrar	Oxford	SOQ
Mr. Hyde	Secretary of the Chest	Oxford	SOQ, EFQ
Prof. Fulton	President	MSVU	SOQ, ISIM
Prof. Reid	Academic Vice-President	UCCB	SOQ, EFQ

The major 'discoveries' of this pretest included:

- not enough time had been allocated for each respondent (between 3-4 hours would be required to complete the SOQ) as a result of the many interruptions these senior administrators are faced with;

- the original wording of the questions required too much explanation, since the respondents had not been pre-advised of the focus of the project and, therefore, were not mentally focused for the questioning;

- respondents kept changing their appointments (very frustrating and logistically difficult to reschedule several people when appointment periods overlap);

- tape-recording would be necessary since some respondents were able to speak much quicker than the researcher could transcribe;

- the initial EFQ instrument was not scaled, and the variety of opinions made it nearly impossible to correlate answers such as 'quite sufficient';

- the initial GIN instrument did not distinguish between personal and written contacts, nor did it include a municipal government category;

- some respondents wanted to see the questions in advance in order to decide whether or not to participate; it, therefore, became necessary to give all the respondents equal advance time with the questionnaire;

- the initial IFIM instrument did not include the 'Foreign', and 'Professional Associations' categories which several respondents utilized;

- while the interview concerns of this researcher primarily focused on conveying meaning, making intentions precise, and trying to relate the questioning to overall intent, it was discovered that securing the respondents' interest (and trying to maintain it) was also necessary since approximately five hours of their time would be required to complete the total process;

- it had not been anticipated that confidentiality of the disclosed information would be an issue, but it was, which necessitated restricting the use of the research information for a two-year period;

- several researchers had to be telephoned and mailed in order to receive the mail-out instruments--this was due to the fact that the respondents were not

aware of the time constraints of the research (and perhaps had not been 'motivated' enough to fill the instruments out, as mentioned above);

- one respondent at Oxford became ill and did not complete the process;

- the uniqueness of Oxford proved both stimulating and frustrating since their internal documentation base was very weak in terms of both current/accurate detail and depth relative to their management practices;

- North American tape recorders require fully-charged batteries;

- the analysis of the pretest data required nearly twice the planned time for editing, coding, and tabulation due to the aforementioned problems, and

- the ability to gain access to influential and prominent individuals seems to be directly related to the influence and prominence of one's research supervisor (and this worked greatly to the advantage of this researcher).

Summary

This chapter has attempted to review the exploratory process that led to the development of the project's research objectives. It has also attempted to provide sufficient support for its exploratory cross-cultural binational multiple-methods focus.

The rationale of the instruments developed and of the sampling process utilized was also supported and detailed. Finally, the pretest process and major findings were discussed.

Phillips' observation provides a suitable ending frame of reference relative to the value of exploratory cross-national research -

> "We simply cannot afford to engage in the same kinds of sterile, unproductive, unimaginative investigations which have long characterized most research[79]."

The full-test analysis will now be reviewed.

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CHAPTER 4

RESEARCH ANALYSIS

Index

"Knowledge is of two kinds. We Know a subject ourselves, or we know where we can find information upon it."

Samuel Johnson
'Boswell's Life of Johnson'

Prologue

The analysis of any comparative cross-national research must, at the outset, ensure that the focus and terminology used to describe the units being analyzed are understood by both the researcher and the eventual readers of the research.

Since both the British and Canadian higher education systems are primarily binary in nature, the definitions lend themselves to easier translation, such as:

a) Universities (in both countries)--degree granting independent corporate bodies.

b) Polytechnics (Britain) and Community Colleges or Colleges of Applied Arts and Technology (Canada)--owned and assisted by local authorities in Britain and Provincial governments in Canada. Both offer diploma and certificate programmes, and in Britain degrees can be earned via the Council of National Academic Awards.

In this chapter, a description and analysis of the data obtained from each of the sample universities will be undertaken, following a higher education 'overview' of both the Canadian and British systems. Lastly, implications of this evidence will be forwarded.

(i) A Canadian Higher Education System--Overview

Background

As with most of the Commonwealth countries, Canada's current university system has been shaped by a variety of interrelated factors, including:

1. immense geographical areas -
   a) 4,500 miles from east to west,
   b) a total land mass area over 40 times that of the United Kingdom,
   c) a total population base of approximately 25,000,000 (or one-third that of the United Kingdoms') unevenly distributed with approximately 62% of the total residing in Ontario and Quebec[1-2];

2. diverse political arena -
   a) ten Provincial governments,
   b) two Territorial governments,
   c) one Federal government;

3. a basic binary system of higher education -
   a) Canada's 52 universities in the ten Provinces are funded by both Federal and Provincial governments,
   b) Canada's 119 community colleges and colleges of applied arts and technology (CAATs), in the two Territories and ten Provinces, are also jointly funded through Federal and Provincial arrangements;

4. a decentralized higher educational government funding and coordinating structure -
   a) each of the ten Provinces has their own Ministry of Education responsible for the funding allocation to both binary constituents,

b) there are eight separate intermediary higher educational Councils in Canada (similar in intent to Britain's University Grants Committee),

c) there are four major formalized Provincial community college systems each with their own Provincial infrastructures (the others including those of the Territories, do not have a separate community college infrastructure);

5. 'British' university orientation -

a) the first universities in Canada (by 1867 there were 18 degree-granting institutions in Nova Scotia, New Brunswick, Quebec, and Ontario), particularly the Nova Scotian universities, reflected most of the major institutional influences of the time--Oxbridge, Edinburgh and London[3];

6. both a period of rapid growth and expansion, and a period of retrenchment -

a) between 1950-1970, the number of students in higher education programs tripled, and the number of post-secondary institutions (including colleges) doubled, due to:

- the need to educate World War II veterans and to provide educational opportunities for the 'baby boom' demographic shift[4],

- the population shift and increase across western Canada[5],

- a doubling of the government monies available for higher education via Federal-Provincial transfers[6];

b) between 1970-1984, the momentum of the previous two decades has shifted to a focus dealing with constraint relative to:

- increasing external pressures from both Federal and Provincial governments in the form of financial cutbacks, and increasing involvement of government departments and agencies in the direction of university affairs[7],

- increasing (and shifting) inflationary pressures, causing governments to both reassess and redistribute funding regarding universities' fixed and variable costs[8],

- changing employment demand patterns towards more professional and skill-oriented programs in both binary systems[9];

7. both the increase in, and formalization of, organizations influencing Canadian higher education, including -

   a) the university/provincial government intermediary councils, including:

      - the Universities Council of British Columbia,

      - the Universities Commission of Alberta,

      - the Saskatchewan Universities Commission,

      - the Manitoba Universities Grants Commission,

      - the Ontario Council on University Affairs,

      - the Counseil des universites du Quebec,

      - the Maritime Provinces Higher Education Commission[10];

   b) the regional, provincial, and national voluntary associations, including:

      - the Council of Western Canadian University Presidents,

      - the Council of Ontario Universities,

      - the Association of Atlantic Universities,

      - La Conference des recteurs et des principaux des universites du Quebec,

      - the Association of Universities and Colleges of Canada,

      - the Council of Ministers of Education in Canada[11];

   c) the faculty and student union bodies:

- the Canadian Association of University Teachers,
- the National Students' Union[12];

8. the shifts in funding for, in power of, and in importance of the major research councils:
   - the National Research Council,
   - the Canada Council,
   - the Social Science and Humanities Research Council,
   - the Natural Science and Engineering Research Council,
   - the Medical Research Council[13].

Significant Impacts

An exploration of those significant impacts influencing the current Canadian binary system can be traced to the aforementioned British influence for the universities. It is also important, though, to include a reference to approximately 65 years of evolution of the college system in the United States, extending from the beginning of the twentieth century since most educational historians agree that this college system was essentially a North American creation[14].

Although the notion of a form of preparatory 'streaming' school has been long established in Europe in the form of the German 'gymnasium', the French 'lycee' and Sweden's 'hogskola', these institutions were effectively rooted in the secondary school system--not separated between the universities and the secondary schools, as is the case in North America[15].

In Canada, educational policy makers were cognizant of this college phenomenon south of the border, but the Canadian public was inclined to view such institutions as being of questionable educational quality. By 1960, however, it became evident that certain social and political changes on the educational scene were imminent. While the particular character of many of these changes did vary dramatically from province to province, as will be documented, certain factors can be generalized.

As Sheffield details -

> "Every reputable projection of university enrollments at that time indicated that an unprecedented flood of students would soon seek admission, a situation with which universities expressed an inability to cope, without a huge infusion of financial and other resources. Public opinion about education, particularly for the post-secondary sector, was highly supportive, as reflected in the widely held belief that education was the key to a rewarding and productive future. Politicians, ever sensitive to the priorities of society, were prepared to give similar priority to education in budgetary allocation. A third important issue was the impact of technology upon the required skill level of the workforce, together with the contemporary demand for paraprofessionals or technologists in the health, business, engineering and human resource fields. While the demand was evident, there were few opportunities available for specialized training in such areas. Finally, there was the less easily documentable, but nevertheless evident fact that tertiary education was no longer accepted as the domain of the variously advantaged. A much broader segment of society sought and demanded intellectual and cultural stimulation through formal or informal experiences, new career opportunities, or simply an uplift in the quality of life[16]."

Confronted with the combination of factors noted above, policy makers sought remedies which would be effective, politically acceptable and financially tolerable. While the remedy clearly lay with the establishment of a new form of educational organization, it was also evident that the traditional post-secondary institutions were neither equipped, nor sufficiently amenable to reform, to fill the need. Inevitably, attention was directed to the United States which had experienced a somewhat similar history of events. The community colleges, as most of the institutions were

then called, were therefore studied and examined for their adaptability to the Canadian scene.

While again noting the caveat of certain specific provincial differences, the Canadian version of the college was planned with several essential characteristics in mind:

a) a broadly comprehensive curriculum which would include various combinations of academic, university transfer, technical/career, vocational, basic adult upgrading and remedial courses, and community education programs;

b) a commitment to quality teaching and broadly based student counselling;

c) an open admission policy;

d) minimal tuition fees;

e) course scheduling in non-traditional time slots to accommodate student needs,

f) responsiveness to the community in policy making, program development and student characteristics[17].

These goals, part of the overall plan for higher education in Canada stemming from the Federal objectives developed in the first Federal-Provincial Conference on Financing Higher Education in 1966, were:

a) to enhance our national life (cultural development, Canadianism);

b) to achieve greater national unity (improved inter-cultural and interregional relations);

c) to develop the economy (manpower supply and training, technological advance);

d) to improve accessibility to post-secondary education (equality of opportunity);

e) to encourage the discovery of new knowledge and ways of applying it,

f) to assume appropriate international responsibilities.[18]

Prior to the 1960s, the closest Canada came to having a National Ministry or Office of Education was the Education Division of the Dominion Bureau of Statistics. But due to the forces of the 1960s, the Federal coordinating role for post-secondary education was given to the Department of the Secretary of State, as Sheffield details -

> "In 1966 the secretary of state was assigned the task of advising Cabinet on post-secondary education. An Education Support Branch was established in the Department of the Secretary of State, and within a year it became responsible for the administration of that part of the Federal-Provincial Fiscal Arrangements Act, 1967, which related to post-secondary education.
>
> In 1973 the Department of the Secretary of State was designated by Cabinet as the agency within the Federal government responsible for coordinated development, formulation, implementation and review of federal policies and programs relating to education. In addition to administering the program of fiscal transfers for post-secondary education, the Department of the Secretary of State is also responsible for: federal policies and programs in support of post-secondary education generally; communication with provincial governments, the academic community, and national organizations, on matters of education; cooperating with the Department of External Affairs in the coordination of Canada's effective participation in international forums on educational questions; and evaluating the effectiveness of federal policies and programs in support of education against national goals[19]."

It was also during this period that the financing arrangements between the Federal and Provincial bodies, for higher education, were formalized through:

a) the Federal-Provincial Fiscal Arrangements and Established Programs Financing Acts of 1967, 1972, and 1977 which detailed:

- the amount of Federal contribution for Canada's three cost-shared programmes--Medicare, Hospital Insurance, and Post-Secondary Education;

- the list of eligible expenditures, including:

1. academic expenditures for academic departments, laboratories, summer schools, extension courses, deans and departmental offices, salaries and employee benefits, and other academic departmental budget items;

2. library expenditures for salaries, employee benefits, books and periodicals, binding and supplies;

3. administrative expenditures for operation and maintenance of administrative offices including salaries and employee benefits;

4. plant expenditures for janitors' and cleaners' salaries and employee benefits, supplies, repairs, fuel, electricity, gas, fire insurance, telephone service and other operating expenses related to physical plant and grounds;

5. miscellaneous expenditures for legal and audit fees, liability insurance, public relations, student placement services and counselling services[20];

b) the creation of the Ministry of State for Science and Technology in 1971 for the purposes of formulating and developing policies, in relation to the activities of the Federal government, that affect the development and application of science and technology (the research councils were developed and formalized under the Ministry)[21].

The Atlantic Region

Canada's four eastern provinces, New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island, are known collectively as the Atlantic provinces--a designation dating from 1949 when Newfoundland joined the confederation. In their attitudes toward cooperation, traditional Maritime provinces have always reflected independent views, stemming from the distinct political, linguistic, religious, historical, and geographical facts of their settlement, which began around 1600. But despite these differences, the Atlantic provinces do have some common features which justify a regional approach. All are heavily dependent upon the basic fishing, forestry, farming, and mining industries[22].

As well, on a world scale, the investment in post-secondary education ranks high for this region. The four Atlantic provinces have the largest number of degree-granting institutions per capita in the world. And the majority of all post-secondary institutions in the region are found in Nova Scotia. As of this writing, the Atlantic region had 17 degree-granting institutions and 13 other post-secondary institutions to serve a population of little over three million[23]. Also, this region has the oldest English-speaking universities in Canada and the great variety of institutions stems from religious differences of the nineteenth century.

As was seen with the rest of Canada in general, accessibility to post-secondary education has also increased

steadily, in this region, since the early 1960s. The universities accommodated both the immediate postwar influx of veterans and the increases in full-time enrollment that began in the mid-1950s. The institutions have managed to cope with a five-fold increase during the last 15 years and are still showing some increases in enrollment, despite the relative plateau of the 1970s. Post-secondary education, in both full- and part-time forms, has been made accessible to the great majority of the population in the region. In Nova Scotia, for example, 70 percent of the population lives within 30 miles of a university[24].

To help manage, finance, and coordinate these changes, Provincial government interest in the universities increased noticeably during this period. In 1963 Nova Scotia became the first province in Canada to appoint a grants committee. New Brunswick followed in 1967; the Prince Edward Island Commission was introduced in 1969, but Newfoundland has never had a grants committee, although a cabinet committee was appointed in 1973 to review post-secondary expenditures[25].

The links between the three Maritime provinces (excluding Newfoundland) became more formalized with the formation of the Association of Atlantic Universities (AAU) in 1964, the Council of Maritime Provinces (CMP) in 1971, and the Maritime Provinces Higher Education Commission (MPHEC), a creation of the CMP replacing the three Provincial grants commissions, 1974[26].

The AAU was founded basically to assist the coordination of higher education, to ensure high academic standards in a period of rising costs, and to avoid unnecessary duplication of faculties and courses of study[27].

During this period, the AAU accomplishments included developing:

a) a united approach to the Commission on the Financing of Higher Education in Canada and to the Federal government in regard to university operating grants;

b) cooperation between university business officers to ensure comparable financial statistics;

c) meetings at least annually, with Provincial grants committees to discuss developments in higher education, and

d) an agreement in 1965 that in graduate work at the doctoral level, at the present time, the universities of the Maritime provinces would cooperate in doctoral work with the graduate schools of Dalhousie University and the University of New Brunswick, and in the special fields of the Nova Scotia Technical College. (It was understood that a university would consult with the other institutions before launching doctoral programs in any field[28].

Relative to the university sector in this region, perhaps the most important, and certainly the most visible, of the CMP initiatives was the formation of MPHEC in 1974. The Maritime provinces premiers made the decision to launch MPHEC at their first meeting.

The legislated purpose of the MPHEC was to assist the provinces and institutions in attaining a more efficient and effective utilization and allocation of resources in

the field of higher education in the region. It was also mandated to carry out several tasks of a planning, advisory, and administrative nature in or after consultation with the institutions and other parties involved, including:

a) to advise the council [of Maritime premiers] with respect to existing needs in the field of higher education in the region;

b) to formulate plans for the future structure and development of higher education in the region, including an assessment of the cost of implementing such plans;

c) to make recommendations to the council as to the advisability of establishing or supporting new courses, programs and institutions, and of terminating support of existing programs;

d) to assist and encourage institutions in establishing or continuing cooperative arrangements among themselves;

e) to encourage and facilitate establishment of regional centres of specialization in the field of higher education;

f) to facilitate the making of arrangements with agencies outside the region to supply higher educational services which are not available in the region or which can be obtained more economically from such agencies;

g) to recommend to the council formulas in relation to the respective contributions of funds to be made by the provinces and to the allocation of such funds among the institutions in the region;

h) to prepare for the council annually a comprehensive plan for financing higher education in the region, including provision for financing the operation of the commission;

i) to administer the funds paid to it by the provinces in accordance with the approval financial plan and formulas respecting allocation;

j) to recommend to the council programs of financial and other assistance to students in the region;

k) to recommend to the council additions to or deletions from Schedule A [the list of institutions for which the commission is responsible], and

l) to undertake such other responsibilities within the scope of its purpose as the council shall assign to it[29].

The MPHEC is clearly this region's primary instrument of planning. The regional commission, although more vigorous in its approach, is following in the footsteps of the three individual provincial commissions it replaced, as can be seen from one of their statements of objectives -

> "One of the broad objectives of the commission since its inception has been to foster the progressive development of multi-year planning. In this context, the institutions have provided annually five-year projections to the MPHEC. As the commission progresses toward the development of multi-year plans, it appears timely to prepare and provide an overview of higher education in the region. As planning for higher education matures, the MPHEC intends to avail itself of a broad range of views[30]."

University Government/Structure

As could be predicted from the aforementioned detail, there is no single theory or model of Canadian university government which embraces the variety of existing practices. However, there are certain common elements attributable to the majority of universities, including those being studied, that can be identified relative to the Board of Governors, the Academic Senate, and the Presidency.

Most universities are governed on the basis of an assumed separation of powers, the lay Board of Governors confining its attentions to fiscal matters while giving the necessary **pro forma** legal approval to educational policies coming up from a Senate, which is theoretically representative of academic interests. Finally, a President is responsible for the overall management of the university through the use and influence of the Board and Senate.

These lay Boards are usually formed by a mixed process of self-perpetuation and governmental selection, with the former predominating at private institutions and the latter at provincial institutions. In most cases there is also provision for election of a sizeable minority of the board membership by the Alumni organization. Members of the faculty are often explicitly excluded from membership.

In their review of the trends and powers of the Board of Governors in Canadian universities, Duff and Berdahl conclude -

> "We found these Boards to be somewhat too homogeneous in membership. This condition is not surprising in view of the fact that most of these Board members had been recruited with the functions of fund-raising and financial management as major selection criteria. Yet the reality as we perceived it is that these Boards are on the one hand getting more involved, willy nilly, in questions of educational policy which are theoretically outside their jurisdiction, while on the other hand their duties as fund-raisers and estate managers are, ironically enough, growing relatively less important. This latter condition relates, of course, to the fact that universities are deriving larger proportions of their income for both operating and capital expenses from governmental sources, and these sources are, in turn, relying increasingly on the advice of university advisory committees whose operations serve to lessen, at least to some extent, the fiscal discretion of the Boards of Governors. The theory that the lay Board controls finance and the academic Senate controls academic policy may perhaps have worked in times gone by where budgets were stationary from year to year and academic forward policy was a perforce at a standstill; but today finance and academic planning are quite inevitably and quite inextricably linked with each other, and will be even more so in the future[31]."

The Senate, though, in addition to a very heavy **ex officio** administrative membership (President, Vice-Presidents, Deans, and sometimes Department Heads), also has a significant proportion of its members drawn from one or more of the following categories:

1. alumni representatives;
2. outside persons with special interests in higher education, e.g., representatives of professions and secondary schools;

3. appointees of the provincial government, e.g., a senior civil servant in the education ministry;

4. board members (at only a few universities).

As Duff and Berdahl note -

> "The two-tiered system can work well only if the Senate is both able and willing to play its full part. It should be the responsible, representative voice of the whole academic community .... By whatever method, the Senate must ensure that its voice is heard by the Board, and that it is sufficiently well informed, by the Board, President, and other agencies, to be realistic in its recommendations. The greatness of a university depends, not mainly on its size nor its wealth, but on the quality of its faculty and the measure of their collective wisdom. A President can and should give a lead to the faculty. But unless the Senate is rightly composed and rightly organized for the work it has to do, even the best of Presidents will fail to being the university up to its full potential[32]."

In relation to the President's role, Duff and Berdahl conclude -

> "The present system seems to depend to an excessive degree for its successful functioning on the superhuman talents of the President. A great deal of this pressure is, of course, inevitable, for universities are complex expensive organisms which require expert administrative leadership. Few Presidents have found ways of strengthening the Board-Senate link, to improve the mutual education of both bodies. Some Presidents, indeed, masochistically believing that they ought to carry the burden of mutual misunderstanding between the two bodies on their own shoulders, deliberately keep them apart from each other.
>
> The facts that the President in effect appoints most Vice-Presidents and Deans to serve at his pleasure, that he must of necessity delegate so many duties to them that they become full-time administrative officers, and that he has tended by choice to rely on them heavily for academic

> guidance instead of using the slower Senate channels--all these things tend to make the teaching faculty regard the entire administrative hierarchy as a distant and impersonal monolith over which they have neither control nor influence[33]."

The unique characteristics of the British system will now be reviewed.

(ii) A British Higher Education System--Overview

Background

> "The stress and challenges that lie ahead for the British universities are therefore likely to be unprecedented in the rate of adaptation for which they will call. Seen in the context of the span of their historical evolution, the requisite rate of change over the next decade leaves them with remarkably little margin for survival as autonomous institutions in the sense in which they have flourished in their contribution to research and the transmission of knowledge and of the European cultural heritage. Yet, although they have been weakened by years of financial constraint, and although they differ one from another in their historical origins, the length of their experience and the infinite variation between them of emphasis on differing aspects of their function, they remain as a system uniquely united, highly responsible in their sense of public duty, and by any standards, remarkably successful in the discharge of their primary functions of teaching and research. They do, however, require longer- term planning perspectives than governments engaged in day-to-day combat with inflation are capable of providing within a general policy of reduced public expenditure, and one is forced to acknowledge a deepening sense of pessimism about the universities' ability to sustain their role efficiently[34]."

This recent statement from the Secretariat of the Committee of Vice-Chancellors and Principals, highlights the fact that, unlike any other Commonwealth country, Britain's higher education system must be viewed from its vast historical perspective in order to fully understand and appreciate the significance of the 'challenge' mentioned above.

There have been innumerous factors, dating back to the 12th Century, that have influenced (and continue to

influence) the complex binary system of higher education in Britain today. These factors will be reviewed chronologically.

Historical Evolution--Until the 19th Century

Up until the 19th Century, the history of higher education in the Commonwealth was basically the history of England and Oxbridge. Oxford's independence from ecclesiastical authorities was granted in 1214, and Cambridge's in 1432--even though both had been operating under royal patronage as early as 1229[35]. Hofstader and Metzger, analyzing the power and position of these institutions, detail how these two universities lived in -

> "... the interstices of medieval society, taking advantage of its decentralization and the balance of its conflicting powers to further their own corporate interests. The absence of a monolithic structure of power, the existence of a real plurality and diversity of interests within the framework of both the ecclesiastical and secular powers put the universities in a position in which they were not easily overwhelmed[36]."

Up until the 19th Century, both universities continued to play an important (and seemingly unrestricted) role, through their college-system evolution and their 'old-boy' network of graduates who typically achieved key positions in industry, government and the military[37] (a trend still obvious to this day[38]). During the 15th and 16th Centuries, the four ancient Scottish universities developed, and as with the Oxbridge evolution, also had roots that stemmed from religious colleges--St. Andrews (1410), Glasgow (1451), Aberdeen (1494), and Edinburgh (1583)[39]. The establishment of these universities, as with the other Scottish schools, was a basic result of both political and religious pressures

to bring education to the country and to those without the means to pay the costs of traveling to England. Equally important, was the need to provide medical training in a country where the population had doubled over the last two centuries (all four schools developed faculties of medicine)[40].

With doubling of the British population, in the 19th Century from 13-26 million people, increased pressure was put on the system to respond to the needs for more university places, specialized training facilities, and monies to support this expansion. This was exemplified by the creation of a Privy Council Committee, in 1839, (the parent of the current Ministry of Education) to administer the government's grants which now had became a regular national outlay[41].

It was also during the period that government began to take more interest in (and control of) university education. Relating to the two separate Royal Commissions for Oxford and Cambridge, in 1850, Morley states -

> "... and the first step was thus taken in the long journey towards nationalization of the universities and the disestablishment of the Church of England in what seemed the best fortified of all her strongholds[42]."

During this period, the University of London's college system also merged and a series of reforming acts, in 1858 and 1859, produced similar changes to the Scottish universities as had occurred with Oxbridge[43].

As Berdahl relates, this was the period of reforming of the old and the foundation of the new universities -

> "The widespread reform of Oxford and Cambridge Universities in the nineteenth century, both from within and by the state, and the foundation of many new institutions of higher learning in England were no isolated phenomena of higher education; they constituted merely one segment of a vast spectrum of reform which developed in Britain in that eventful century. Slavery, the increase of crime in new urban centers, care of the poor, local government organization, factory conditions, public health, parliamentary representation, the franchise, primary and secondary education--all these matters, and many more, provided challenge to a seemingly ubiquitous will to improve society, manifested variously in private philanthropy, voluntary social cooperation, and governmental action.
>
> When reforming passions were turned toward university education, four principal questions appeared:
>
> 1. Had conditions in England become such that it was necessary to break the six hundred years' monopoly of Oxford and Cambridge by establishing new universities? If so, where, and what kind?
>
> 2. Could the much-maligned eighteenth-century level of education at Oxford and Cambridge be raised by improving their curricula, their examination systems, and the character of their faculties and student bodies?
>
> 3. Could the administrative structures and statutes of these universities and their constituent colleges be changed so as to remove existing religious restrictions and to make these institutions more easily adaptable to new national needs which might arise?
>
> 4. If the reforms implied by the second and third questions were not forthcoming from within the universities themselves, was it necessary, proper, or desirable for the state to intervene to bring them about?44."

By the turn of the 19th Century, through the works of three national commissions--the Public Schools Commission (1861-1864), the Schools Enquiry Commission (1864-1884) and the Bryce Commission (1894-1895), the way had been paved for an extension of government involvement in, and responsibly for, higher education. This culminated, via the Education Act of 1902, in the establishment of the Local Education Authorities, responsible for all education below the university level in their areas[45].

With the chartering of the nine 'red brick' universities (Manchester, Newcastle, Leeds, Bristol, Nottingham, Birmingham, Liverpool, Reading and Sheffield), the end of the 19th Century could be seen as producing several important changes, through government reform, in both university life and structure, including:

a) the powers of the universities, as distinct from those of the colleges, had been strengthened and at the same time made less oligarchical. The administrative dominance of the heads of colleges was broken in favor of more representative bodies; college revenues were partly diverted for university purposes; the language of the statutes was changed from Latin to English and they were made easier to revise; it was ruled that the deliberations of administrative bodies were in future to be conducted in English rather than Latin; and university officers and faculty members were freed from oaths which prevented them from disclosing information about the statutes;

b) there were far-reaching changes in the fellowship and scholarship systems. Family, school, regional, and religious restrictions were removed, ordination and celibacy requirements and life fellowships were abolished, and many new scholarships were established, open to 'merit' in line with the trend in Civil Service reform;

c) the curriculum and teaching system received large-scale modifications. Some of the diverted college revenues were used to meet the need for new and neglected studies, the professional system was greatly enlarged, new areas of study and additional chairs were created, and libraries and museums were strengthened;

d) religious restrictions, excepting those for degrees in divinity (which followed suite in the twentieth century), were completely removed. No religious tests were required for an applicant to matriculate, to attain the baccalaureate or a higher degree, to teach within the universities, or to hold university office, and

e) attempts were made to attract to the universities bright young men from the working class. Students were allowed to affiliate with the universities on a noncollegiate basis, and university halls, providing residence but not tutoring, were sanctioned. All students were to be deemed eligible for 'open' scholarships[46].

The mood of the government as the system entered the 20th Century can be seen in the following statement, by Pattison, reviewing the Parliamentary Debates of the time:

> "It was desirable that a little external pressure should be brought to bear upon the Universities .... It would not do to trust either the Universities or Colleges with the entire management of the reforms, for ... they were not an exception to the rule which had been found to exist elsewhere, that hardly any corporation was capable of entirely reforming itself without external pressure[47]."

> "It must be among the duties of Government, under its responsibilities to the nation, to watch unintermittently over the University, and to see that it does in practice efficiently discharge the functions assigned to it[48]."

Historical Evolution--Through the 20th Century

Just as there were several factors that helped explain the nature and development of the Canadian higher education system over this century, the British system too can be viewed as having been influenced by its own particular factors, including:

1. the historical, religious and geographically significant distinctions between both the population and the higher education patterns in England, Northern Ireland, Scotland and Wales--all of which continue to influence the policy and financing derisions made directly by the Department of Education and Science (for Open University, the Federal Universities--Wales, London, the Royal College of Art and Cranfield Institute of Technology) and by the University Grants Committee for the majority of the universities and the London and Manchester Business Schools[49,50].

2. the influence of the various Ministries of Education on the major developments and changes influencing the British higher education system in this century, including:

   a) the development of the University Grants Committee (1919) for the purpose of assisting the Treasury in both functional and geographic coordination of the universities[51];

   b) the formation of the Department of Scientific and Industrial Research (1915), under the Privy Council's direction, for the purposes of finance research proposals, awarding fellowships and studentships, and developing research associations in industry and research facilities in the universities[52]--this eventually helped provide impetus for the formation of the Medical Research Council (1920) and the Agricultural Research Council (1931)[53];

   c) the developing and implementing of the Education Act of 1944, which prepared the ground for the Robbins Report (1963), and influenced the system by -

i) delineating the responsibilities and financing for the 146 relatively autonomous Local Education Authorities regarding their primary, secondary, and further education responsibilities, so the Education Minister could be satisfied

- that educational facilities and ancillary services are provided in sufficient quantity and variety;
- that educational establishments and ancillary services are well managed, equipped, staffed and maintained;
- that the proper freedom of parents, teachers, and other third parties is secured;
- that the qualifications of teachers and medical officers are such as to satisfy proper requirements to safeguard their and the children's interests;
- that the fees charged and awards and allowances made are such as are necessary and appropriate;
- that the provision of education premises satisfies essential standards[54].

ii) formalizing the government's educational and administrative intents concerning the higher education sector by both promising to greatly increase the number of students qualified for university matriculation and by completing the long transition from state-oriented education to a national system of education[55];

iii) by expanding the University Grant Committee's role through:

- the increase in the national grant to be distributed by the Committee;
- broadening the Committee's terms of reference to also include Northern Ireland;
- modifying the Committee's organizational structure;

- changing the Committee's procedure for allocating grants, including both the types of activities and the number of institutions aided[56].

iv) by facilitating coordination and cooperation of other groups with inherent interests in higher education policies, including:

- the Association of University Teachers;

- the National Union of Students;

- the Congresses of the Universities of the Commonwealth (co-sponsored by the Committee of Vice-Chancellors and Principals and the Association of the Universities of the British Commonwealth)[57].

v) by supporting the administrative strengthening of the Committee of Vice-Chancellors and Principals to facilitate more effective procedures for promoting interuniversity coordination and discussion through their four sub-committees--finance, academic affairs, staff and students, and international university affairs[58].

3. the impact of the 'expansionist' Robbins Report (1963), building on the momentum of the Education Act (1944), in the areas of

a) supporting the establishment of the Council for National Academic Awards (1964) to provide degree granting ability to students in post-secondary institutions without the power to confer them, and to help ensure a measure of consistency between the examination processes of the university and the polytechnics and colleges[59];

b) removing the University Grants Committee from the responsibility of the Treasury to that of the Department of Education and Science where the Committee's advice would be passed to the Secretary of State for total allocation fixing--but the Committee itself would determine the allocation distribution[60];

c) creating a growth and expansionist 'mind set' whereby the policy makers in the newly termed 'binary system' (the addition of a

second layer in higher education led by some 30 polytechnics in England and Wales and central institutions in Scotland) anticipated an increase of approximately 350,000 places in higher education between 1963-1981[61];

d) influencing the Labour government (1964-1970) to increase the opportunities for both employment and education (integration to sandwich courses, developing of the 'New' and 'Technological' universities, and Open university) and the following Conservative government to maintain this momentum[62] (the 1972 White Paper, 'Education: A Framework for Expansion', from the Secretary of State for Education and Science, Margaret Thatcher, clearly expresses the Conservative's interpretation of the Robbins doctrines of the decade earlier[63]);

e) initiating the move to increase the research activities of the system (via the Science and Technology Act of 1965) where the responsibilities for research were allocated to the Secretary of State for Education and Science and the councils regrouped to include

- the Science Research Council (renamed the Science and Engineering Research Council in 1981);
- the Agricultural Research Council;
- the Medical Research Council;
- the National Environment Research Council;
- the Social Science Research Council[64].

4. the interrelated impact of world-wide recession and accompanying inflation, with the less-than-forecasted number of students in the higher education system, on the Department of Education and Science's and the University Grants Committee's quinquennial planning system (that effectly broke down during the 1972-1977 quinquennium due to the aforementioned interrelated effects)[65], effecting

a) a new system of firm one year budget settlements and provisional three year grant targets, by the Grants Committee, starting in 1978[66];

b) the continuous revision of the above targets as exemplified by the Grants Committee's

1981 system-wide target budget reductions of 8.5% for the period 1981-1983. Relative to their new and strict guidelines for the numbers of home and foreign student targets, the universities would be allowed to offer places to (the individual target university grant reductions ranged from 1% to 40%)[67];

c) the development of the systems-oriented policy projects, including

i) 'Higher Education into the 1990s' (1980) concerning the development of Britain's higher education system in the face of decreasing and shifting demand patterns[68];

ii) the 'Leverhulme Programme of Study into the Future of Higher Education' (1979-1982) focusing on the critical topic areas of

- higher education and the labour market;
- access to higher education;
- institutional change;
- the future of research;
- the arts and higher education;
- professionalism and flexibility for learning;
- accountability or freedom for teachers;
- resource and higher education;
- the structure and governance of higher education[69];

iii) the Grant Committee's '29 Questions' (1983) concerning the aforementioned development of a strategy for higher education into the 1990s through a joint dialogue process between the UGC and the universities[70];

iv) 'Towards a Strategy for Local Authority Higher Education in the Late 1980s and Beyond' (1982) by the newly created (1981) National Advisory Board for Local Authority Higher Education (playing a similar role to the UGC--focusing primarily on the polytechnics and colleges of further education side of the binary system instead of the universities)[71].

University Government/Structure

Just as the Canadian universities could be analyzed relative to common characteristics of their layered structure of university government, the British system too can be analyzed in terms of the most characteristic layers--the Court, the Council, and the Senate. Also, the role and relevance of the Vice-Chancellor or Principal, the Chief Administrative Officer for the university, will be discussed.

Typically, the Court is a large body which meets generally once a year, like an annual general meeting of shareholders. Membership is usually comprised of a combination of ex-officio, life, nominated, representative, elected and co-opted members representing the varying local interests, such as schools, politics, churches and trades unions. It may also incorporate alumni and university staff members. Typical functions could include appointing the Chancellor, Pro-Chancellors, Treasurer, and Auditor; making changes to Statutes in the Charter, and receiving and reviewing the Annual Report[72].

Below this rather formal body is the Council in which rests the main executive authority of the university, particularly in areas of finance and capital expenditures. Typically, there is a lay chairman of its finance committee and a high number of lay people and senior academics balance off the membership and decision-making responsibilities of the Council. As Becher and Kogan point out -

> "The formally created relationship between a university and the laity is the council, sanctioned by royal charter and enjoying specific powers over the university's finance and resources. The functions and composition of councils ... reflect various assumptions about the relationships between higher education and society[73]."

Academic policy is usually the prime mandate of the Senate which tends to be comprised of all professors and several elected representatives of the non-professional staff or ex-officio non-professional heads of departments.

The balance in the relationships between the Council and Senate has been described by Carter -

> "Throughout higher education the normal pattern in major institutions is to have a two-headed system of government: a Council or Board of Governors or their equivalent having final legal responsibility for assets and employment, and dealing with finance and buildings; and a Senate or Academic Board or their equivalent making or initiating the academic decisions. The academic staff is represented on the Council or Board of Governors, and so, in most places, are the students; but it is rare for the 'lay' (that is, non-academic) interests to have any voice on the Senate or Academic Board.
>
> Some of the sentiment in favour of a two-headed system is related to the conservative principle that it is safer: foolish measures which go unchecked in the Senate or Academic Board can be defeated, perhaps on financial grounds, in the Council or Board of Governors. There is substance in this point, for higher education institutions are sometimes tempted to take very foolish decisions, perhaps under the influence of a passing fashion or in deference to some powerful extreme group. But there are alternative ways of providing for a delaying or revising function, and it should be noted that a less desirable effect of the two-headed system is to increase greatly the power of the chief executive of the institution. Any intelligent Vice-Chancellor or Principal soon learns how to use divided control in order to get his own way, arranging that when something

> which he dislikes passes in one body it will be questioned in the other[74]."

As Carter implies, within the government of the universities, the Vice-Chancellor or Principal exercises a great deal of power as the chief academic and administrative officer.

He typically is chairman of Senate, chairman of important Senate and Council committees, and ex-officio member of most committees. As Noble relates -

> "He is bound to be ultimately involved in decisions about the allocation of resources and appointment of senior staff. He is the university's principal external ambassador, both locally, nationally and internationally; and he is the main channel of communication, for example with the University Grants Committee. His effectiveness essentially depends on his ability to secure the best conditions in which members of staff of the university may discharge their responsibilities efficiently. He has to be a conciliator, arbitrator, moderator and stimulator of initiatives. He is inevitably overworked, but gets much help and support from his pro-vice-chancellors and from deans of faculties. It is the remarkable willingness of so many individuals to serve the interests of the university rather than their own personal departmental interests alone which has given so much strength to the British universities[75]."

Through the Secretary and Registrar, responsible to the Vice-Chancellor for the administration as a whole, and the Pro-Vice-Chancellor, the administrative and operating functions of the university is controlled.

(iii) Systems Comparison Summary

The brief review of both the British and Canadian higher education systems produces a variety of similar processes and pressures. During this decade, both systems are faced with increasing demands for improved efficiency and effectiveness in spite of reduced funding policies coupled with increased political scrutiny (and intervention).

In summary, the four characteristics that this researcher finds most prevailing include the -

1. similar organizational structures with the major difference being that the functions of the Court are delegated through the Board of Governors in the Canadian system. Both, though, rely equally on external lay persons for membership. Figure 1 presents organization charts for typical British and Canadian universities, for comparative purposes;

2. similar binary system influences in higher education, gaining momentum primarily after the Second World War with the increases in demand for education, the need to train and educate the veterans and their 'baby boom', and the need to balance the focus of education between the arts and sciences, and technology;

3. similar increasing external intervention and scrutiny of the universities' affairs from groups such as -

   a) the National governments, or representative taxpayers who provide most of funding;

   b) the local authorities (and Provincial governments), or representative ratepayers, who also contribute, or administer state-derived funds, or have a responsibility in management;

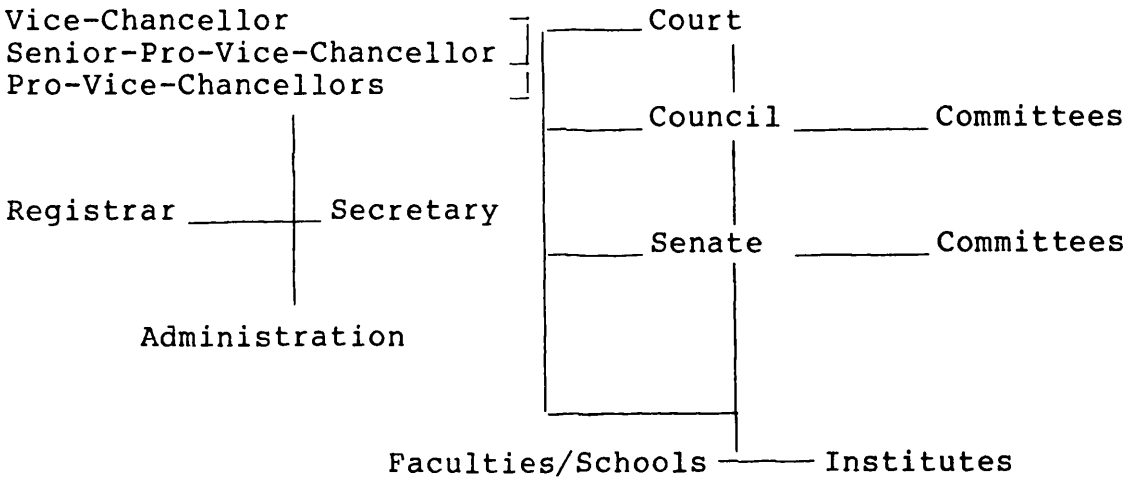
   c) private founders and benefactors;

   d) the employers of graduates or other students completing courses;

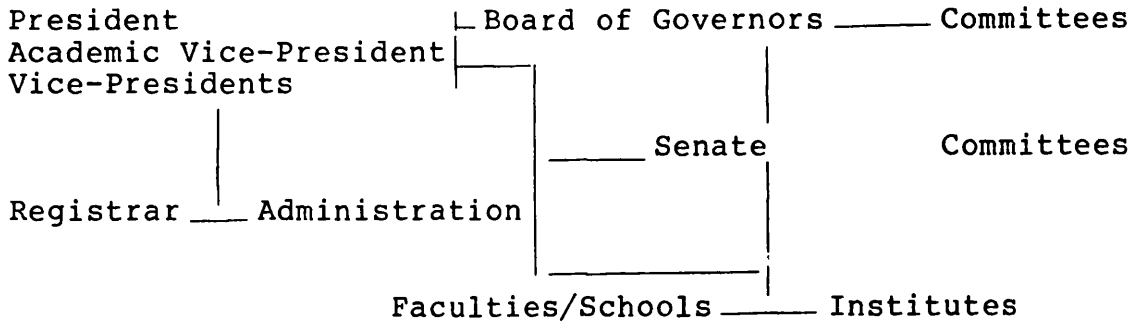
FIGURE 1

COMPARATIVE UNIVERSITY STRUCTURE LAYERS

A British University



A Canadian University



e) the users of applied research (if this is a function of the institution);

f) the users of other services from the institution, for example, consultancy and testing;

g) the 'learned community'--for example, the Royal Society and the British Academy, with an interest in the effectiveness of pure research, if this is a significant part of the work of the institution;

h) the schools, with an interest in opportunities for their pupils and in their fair treatment;

i) parents of students;

j) present students, as 'consumers' of the services;

k) past students, as persons with an interest in the good name and success of their alma mater;

l) employees of every trade, who have an interest in good employment practices as well as in the general good name of the institution;

m) representatives of linked institutions--for instance, those receiving students for further training, sharing a joint system of validation of qualifications, or undertaking joint courses;

n) external examiners;

o) representatives of those who have an interest in higher education apart from its value in employment--for example, societies with a cultural interest;

p) representatives of the surrounding community, on which the institution has an economic and social impact;

q) general community representatives, in their capacity not as taxpayers but as persons with a broad interest in educational or research or cultural policy;

r) people interested in equal opportunity for the sexes and for students and employees of all racial origins, and

4. on a macro basis, similar external layers of influence, as depicted in Figure 2.

FIGURE 2

COMPARATIVE HIGHER EDUCATION SYSTEMS INFLUENCING LAYERS

	Layer	Britain	Canada
1)	Funding	Treasury	Finance
2)	Allocation	Secretary of State - Research Councils	Ministry of State - Research Councils
3)	Administration	D.E.S.	Provincial Ministries
4)	Coordination	U.G.C. N.A.B.	University Committee Community College Councils
5)	Influence	C.V.C.P. N.S.U. A.U.T.	A.U.C.C. N.S.U. C.A.U.T.
6)	Units	Universities Polytechnics Other	Universities Community Colleges Other

Part A - The University of Bath

Introduction

The University of Bath is a scientifically, technologically and a professionally oriented institution with roots tracing back to the British Trade School established in 1856. In 1894 the institution became known as the Merchant Venturers' Technical College until it passed to the Bristol Education Authority in 1949. In 1960 it became a college of advanced technology, and in 1966, following the Robbins Committee recommendations, it was chartered as the Bath University of Technology. In 1971, the name was changed to the University of Bath.

Located outside of Bath, in Claverton Down, with a population base of approximately 90,000, it offers courses to 3,581 full-time and 258 part-time students, as of the 1982/83 academic year. New admissions, currently 1,280, have now been restricted due to the U.G.C. allocation schemes, with a net impact of zero growth up through 1983, in spite of increasing demands for admission. Post-graduate students (masters and doctoral levels) account for 15% of the student enrollment and foreign students for 8%.

The university's 362 regular faculty (5% part-time) are primarily organized into 14 schools, including:

- School of Architecture and Building Engineering
- School of Biological Sciences
- School of Chemical Engineering

- School of Chemistry
- School of Education
- School of Electrical Engineering
- School of Engineering
- School of Humanities and Social Sciences
- School of Management
- School of Materials Science
- School of Mathematics
- School of Modern Languages
- School of Pharmacy and Pharmacology
- School of Physics

The resource coordination activities of these schools are overseen via an 'area' system basically grouped into three academic areas--Science, Technology, and Arts and Social Sciences. Two other areas, Social (considering non-academic aspects of university life including recreation, music, theatre), and Academic Services (the library, computer unit, educational services unit) round out the five area system.

The revenue resources for the university, of L19,200,000 are derived mainly from grants (60%), academic fees (23%), and research (13%).

Organization and Planning

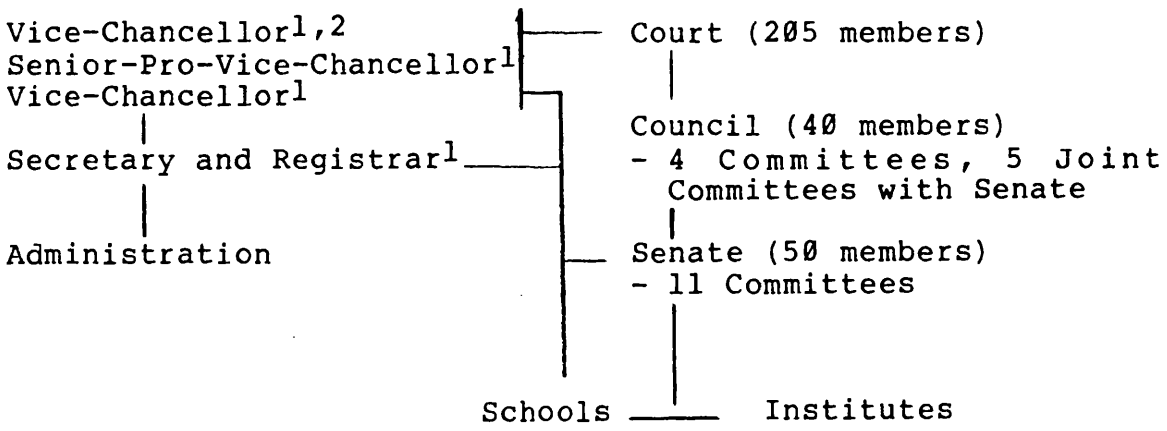
Figure 1 presents a combined administration and government organizational structure as confirmed by the Vice-Chancellor, Dr. Quayle. Figures 2 and 3 present separate structures as recently developed by the Secretary and Registrar, Mr. Mawditt.

The Vice-Chancellor has general responsibility to the Council for maintaining and promoting the university and does so through his administrative team. The Senior-Pro-Vice-Chancellor, through his committee work and representation, is responsible for coordinating and facilitating the academic-related planning processes. The Pro-Vice-Chancellor is primarily responsible for the administrative control of the university and for servicing the committee network. These responsibilities are depicted in the aforementioned Figures, and are not atypical.

Focal to the planning process of the university, and to the duties and responsibilities of the senior administrative team, are the Vice-Chancellor's Advisory Committee, the Long-Range Planning Committee of Senate, the Finance and General Purposes Committee of Council, and the Central Academic Services Committee which is an Area committee. These committees are supported by sub-committees and working parties, meet typically one to two times per term, and are coordinated by the senior administrators.

FIGURE 1

ORGANIZATION CHART



NOTES:

[1]Participated in Project

[2]Planning Officer in V-C's Office

FIGURE 2

GOVERNMENT STRUCTURE

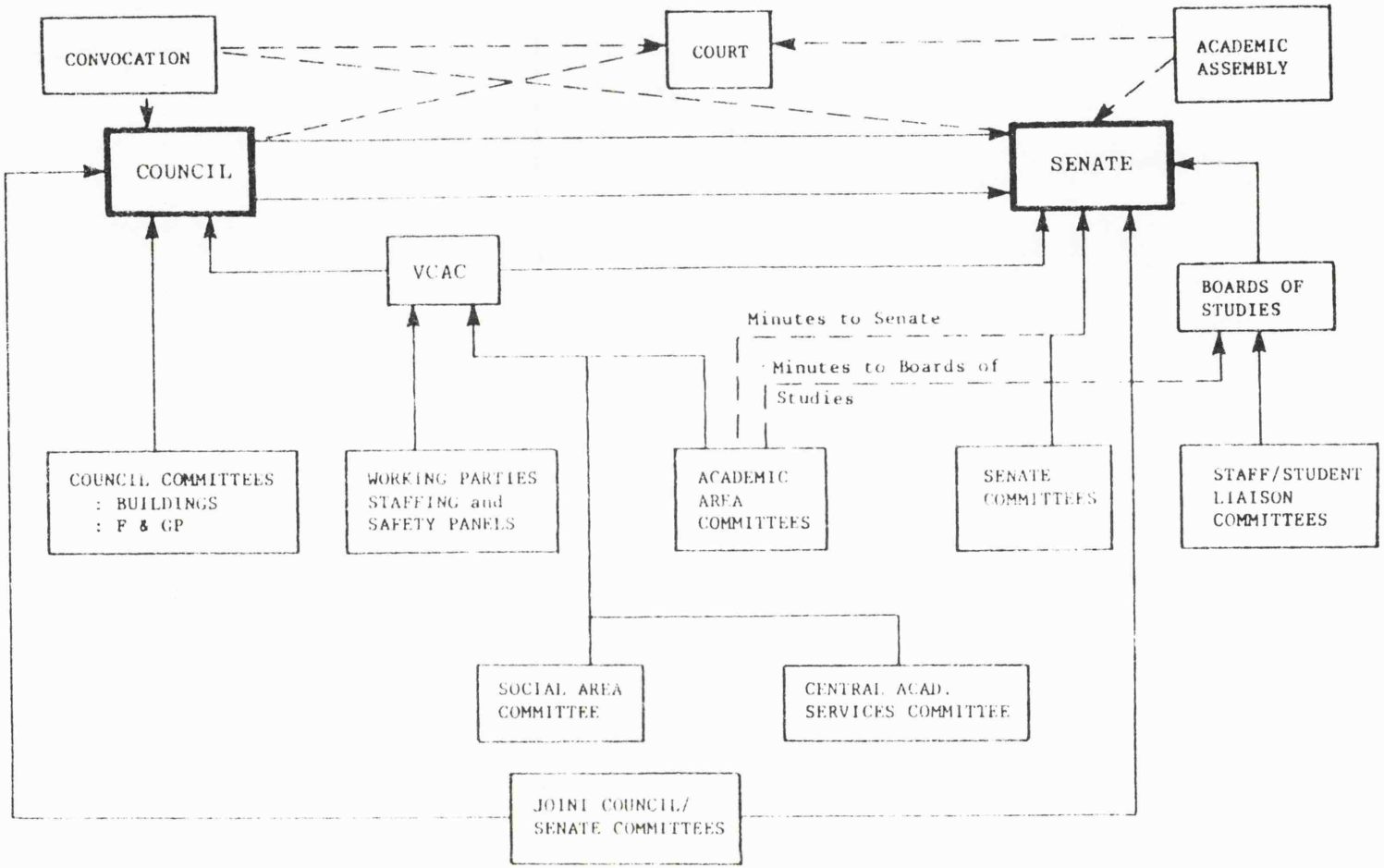
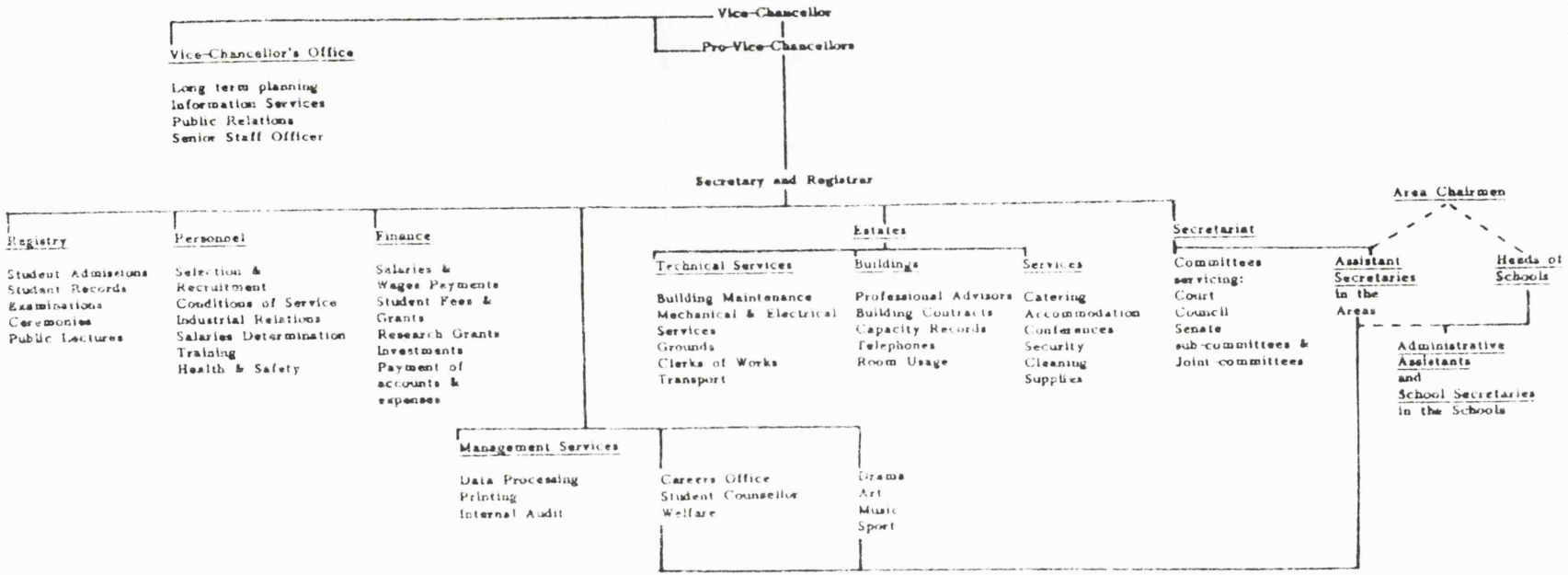


FIGURE 3

ADMINISTRATIVE STRUCTURE



The Vice-Chancellor's Advisory Committee (VCAC), established in 1974, assists the Vice-Chancellor who has two overriding responsibilities: to be the ex-officio Chairman of Senate, and to have a general responsibility to Council for maintaining and promoting the efficiency and good order of the University. Apart from the assistance he receives from the two Pro-Vice-Chancellors, the Heads of Schools and the professional administrative staff, he also receives advice from the VCAC. The VCAC's membership consists of the two Pro-Vice-Chancellors and the Area Chairmen, together with the Secretary and Registrar and the Senior Staff Officer. It serves to advise on matters such as the proposed allocation of funds, communications from the UGC, the balance between teaching and research and between Areas, and the allocation of staff vacancies, and its recommendations are forwarded to the Finance and General Purposes Committee or Senate, and then to Council. The VCAC is not a statutory committee, and these higher bodies are not obliged to accept its recommendations; however, they are rarely referred back.

The Long-Term Planning Committee attempts to project the future academic direction of the university in terms of research proposals, student targets and mix, UGC related plans, and faculty trends/needs. The third crucial committee, Finance and Buildings, considers the overall provision of funds and problems relating to new and existing buildings, respectively. The Central Academic Services Committee focuses primarily on resource allocation between the Areas.

Through the initiatives of the senior administrators, Bath University has positioned itself to fit directly into the context of the D.E.S.'s desires to develop universities that provide scientific, technical and commerce oriented studies and research expertise for industry. The university's research company, South Western Industrial Research Limited (SWIRL) is an example of one such initiative under the guidance of the Senior-Pro-Vice-Chancellor, Professor Thomas.

Other dynamic initiatives resulting from the planning network at Bath includes the South West Universities Regional Computer Centre, located on campus, a joint collaborative resource sharing effort between Bath and four other members.

Other indicators of Bath's direction regarding its research focus can be seen from the list of research priorities it submitted to the U.G.C. in response to the '29 Questions', including:

a) science and technology of new materials and design studies incorporating new materials;

b) total energy systems;

c) all aspects of manufacturing,, including management studies;

d) implications of design in its widest sense on the environment;

e) development of resources to back the expansion of continuing education and development of resources for programmes of advanced industrial training;

f) the science and technology of separation and concentration of products of the chemical and biotechnological industries;

g) application of optical technologies to computing and telecommunication;

h) application of computer graphics to molecular modelling in chemistry, biochemistry and pharmacology;

i) commissioning of independent economic and social analyses of aspects of public policy by expert groups of university economists and sociologists. Such studies could replace the activities of the Central Policy Review Staff--the 'Think Tank'--which was disbanded recently.

The research options are one indication that the long-term plans are geared to providing the university with an increasing involvement in outside research in an attempt to stabilize the effects of projected short-falls in block grant funding.

Another indicator that the university is attempting to develop contingency plans can be seen in the unique and dynamic comparative expenditure analysis data base developed by the Planning Officer. This information system allows the Vice-Chancellor and Senior-Pro-Vice-Chancellor to compare Bath's expenditure patterns with all other universities--and help them to identify and control abnormal expenditures and also to project future patterns.

No other Commonwealth university has as of yet developed an internal data base and external statistical information system equal, in terms of breadth and depth of information, to that of Dr. Taylor's.

Organizational Analysis

As implied from the aforementioned evidence, the information sharing and exchange between the key administrators, concerning the external forces and issues impacting on their university, is critical in order to develop effective and efficient future strategies.

Table 1 summarizes background data on the key members of the senior administrative team interviewed.

From this table, two points bear considering. First, the mean age of 54. 6 years is relatively high and coupled with a mean university related work experience of 24. 2 years suggests this team should be well versed and skilled in university affairs.

Secondly, since both the Senior-Pro-Vice-Chancellor and the Secretary and Registrar have management related backgrounds, and these two along with the Pro-Vice-Chancellor can all be said to have a more professional orientation (management and engineering), the administrative team has a well balanced background orientation with which it could enhance the dynamics of its management and professional focused issues/plans. This overlap should be maintained when replacements for these positions are being considered.

TABLE 1

ADMINISTRATIVE PROFILE

Person	Position	Age	Training[1]	Years In Position	Years At School	Years In University[2]
Dr. Quayle	Vice-Chancellor	57	Micro Biology	1	1	29
Prof. Thomas	Senior-Pro-V-C	61	Management	5	23	19
Dr. Eastham	Pro-V-C	51	Engineering	3	9	25
Mr. Mawditt	Secr./Reg.	48	Management	11(33)	18	21
Dr. Taylor	Planning	56	Biology	14	27	27

NOTES:

[1]for highest degree

[2]work-related

[3]since the two positions (Secretary and Registrar) combined

Table 2 depicts the administrative team's internal committee networking, demonstrating the potential for information sharing by and through the key administrators who sit together on various committees. It is interesting to note that the Vice-Chancellor and S-P-V-C equally dominate these networking totals, and combined with the P-V-C, are all over the mean of 9.6 contacts for the team. Overall, the key linkages are equally balanced between the V-C and S-P-V-C, and the S-P-V-C and the P-V-C. The weakest link is the Planning Officer, and other than this, the overlap is sufficient.

Table 3 summarizes key Situational Overview Questionnaire (SOQ) probes relative to the perspectives held by the team members. Table 4 analyzes and groups these responses into three four-celled matrices. In each matrix, cells one and four represent compatible, and cells two and three less compatible, perspectives and situations. Based on the answers given by the team members (Table 3), they are placed in the corresponding matrix and cell.

In matrix A, with the exception of the V-C, all members perceived the environment as being turbulent (lo stability) and the two P-V-Cs share compatible perspectives as seen via cell four. In matrix B, there is total consensus that Bath's information networking has improved, but the P-V-C and Planning Officer are in the less compatible cell (cell three) indicating that they feel the university is not yet well prepared for the future.

TABLE 2

INTERNAL COMMITTEE[1] NETWORKING

	V-C	S-P-V-C	P-V-C	S & R	P.O.	T
V-C	-	5	4	3	1	13
S-P-V-C	5	-	5	2	1	13
P-V-C	4	5	-	2	-	11
S & R	3	2	2	-	1	8
P.O.	1	1	-	1	-	3
Sub-Totals	13	13	11	8	3	48

Total 48

Mean 9.6

---

[1]Includes overlaps in Court, Council, Senate, Committees of Council, Committees of Senate, VCA Committees, and Joint Committees of Council and Senate.

TABLE 3

SOQ FOCAL POINTS

	V-C	S-P-V-C	P-V-C	S & R	P.O.
Internal vs. External Orientation (I,E)	I/E	I/E	I	I/E	I/E
Stable vs. Less Stable Environment (S,L)	S	L	L	L	L
Flexible vs. Less Flexible University (F,L)	F	F	F	L	L
Prepared For Future (Yes, No)	Y	Y	N	Y	N
Improved External Info. Networks (Y,N)	Y	Y	Y	Y	Y
Changing External Forces (Y,N)	Y	Y	Y	Y	Y

TABLE 4

SOQ FOCAL POINT ANALYSIS

A) **Organization**

Environment	**Lo Flex**	**Hi Flex**
Hi Stability	1	2 V-C
Lo Stability	3 P.O. S & R	4 S-P-V-C P-V-C

B) **Information Networking**

Future Preparedness		**Yes**	**No**
	Yes	1 All Others	2
	No	3 P-V-C P.O.	4

C) **Orientation**

Changing Forces		**Internal**	**External**
	No	1	2
	Yes	3 P-V-C	4 V-C S-P-V-C S & R P.O.

NOTE: Cells 1 and 4 are more compatible
Cells 2 and 3 are less compatible

In matrix C there is total consensus that the external forces are continuing to change and influence their university and all members, with the exception of the P-V-C, see an external dimension in their duties and responsibilities. Overall, the compatibility rating is quite high at 60% (nine compatible placings out of 15 possible).

Table 5 summarizes the Government Information Network (GIN) linkage patterns between team members and those governmental departments they have personal and/or written contact with.

TABLE 5

GIN LINKAGES

	National	V-C		S-P-V-C		P-V-C		S & R		P.O.		S-T		T
		2[1]	3[2]	2	3	2	3	2	3	2	3	2	3	
1)	Agriculture	X	X	X	X							2	2	4
2)	Customs		X	X	X				X			1	3	4
3)	Defence	X		X	X		X		X			2	3	5
4)	Education	X	X	X	X	X		X	X	X	X	5	4	9
	- Research Councils	X	X	X	X	X	X				X	3	4	7
5)	Employment			X	X							1	1	2
6)	Energy				X								1	1
7)	Environment		X		X								2	2
8)	Export		X		X								2	2
9)	Foreign		X		X		X		X				4	4
10)	Health	X	X		X							1	2	3
11)	Home Office				X	X	X		X			1	3	4
12)	Industry	X	X	X	X	X	X	X	X			4	4	8
13)	Information			X	X				X			1	2	3
14)	Revenue						X						1	1
15)	Law													
16)	Lord Chancellor													
17)	Management													
18)	Ordnance													
19)	Overseas Dev.		X		X		X	X	X	X	X	2	5	7
20)	Parl. Counsel													
21)	Paymaster													
22)	Census									X	X	1	1	2
23)	Procurator													
24)	Stationary													
25)	Trade	X	X	X	X	X	X	X	X			4	4	8
26)	Transporation													
27)	Treasury													
28)	Welsh Office													
	Sub-totals	7	10	10	17	6	9	4	9	3	4	30	49	79
	Totals	17		27		15		13		7		79		79

NOTES:

[1]2 represents personal contacts

[2]3 represents primarily written contact

These results suggest that:

1. the areas with the most contact overlap and underlap (relative to the potential of ten contact points--five administrators times two contact options) are:

Overlap	Underlap
Education (9)	Agriculture (4)
Industry (8)	Customs (4)
Trade (8)	Foreign Office (4)
Research Councils (7)	Home Office (4)
Overseas Dev. (7)	Transportation (4)
Defence (5)	Health (3)
	(all other 16 Departments);

2. written contact dominates the linkage pattern (62% - 49/79) over personal contacts (38%);

3. the administrators demonstrate a wide range of government contact patterns -

Administrator	% of Total Contacts		% Personal: Total
Vice-Chancellor	22%		70%
Senior-Pro-V-C	34%		58%
Pro-V-C	19%		40%
Secretary & Registrar	17%		31%
Planning Officer	8%		42%
	100%	Mean	48%

4. from the chart above, it can be seen that the S-P-V-C clearly dominates the total contact pattern, and along with the Planning Officer has a better balanced Personal Contact total (relative to both a 50:50 balance, and to the mean of 48%).

Table 6 lists those issues the administrators felt were influencing their university and consequent planning focus. Table 7 lists the major external forces felt to be exerting the most pressure/influence on the university. When these dominant issues and forces are combined, the linkage patterns, as developed in Table 8, emerge.

Table 9 summarizes the External Forces Questionnaire (EFQ) and presents the means of the scaled scores the administrators gave to each of the seven questions asked about each force they identified. When this data is related to the aforementioned ranked data in Table 8, it becomes possible to re-develop the list of forces (in Table 8) in rank order of the administrators' concensus about the urgency and impact of these forces. As developed in Table 10, the purpose here is to identify those forces deemed to be most urgent, relative to action required via the university's planning system. And action should be initiated concerning those forces that rank highest in EFQ questions 1, 3, 4, and 7, and lowest in questions 2, 5, and 6 (see Chapter 3, Methodology). Using these action criteria, and reviewing the results from Table 10, the forces, in rank order of most importance (and those deserving most action focus) are:

1. both the D.E.S. and U.G.C. tie for top priority (they appear five out of eight times in the top 50% of the rankings in questions 1, 3, 4, and 7, and three out of eight times in the bottom 50% of questions 2, 5, and 6);

TABLE 6

MAJOR PLANNING ISSUES

	Issue	V-C	S-P-V-C	P-V-C	S & R	P.O.	T
1)	R & D Excellence	X		X		X	3
2)	R & D Opportunities	X	X		X	X	4
3)	Government Funding Policies	X		X		X	3
4)	Increasing Faculty Productivity	X	X			X	3
5)	Business/Industry Relationships	X	X	X			3
6)	Public Relations Image/Excellence	X			X		2
7)	University Competition	X		X	X	X	4
8)	Alternate Funding	X			X		2
9)	Government Information	X	X	X		X	4
10)	International Competitiveness	X				X	2
11)	Science/Tech Trends	X	X	X		X	4
12)	Need for New Faculty			X			1
13)	Research Funding Priorities		X	X		X	3
14)	Government Planning Information				X		1
15)	Demographic Patterns		X		X		2
16)	Alumni Development				X		1
17)	Economic Resources		X		X		2
18)	Employment Patterns		X		X	X	3
19)	Quality of Potential Students					X	1
20)	Specialization of Universities		X				1
21)	Planning Techniques for Univ.		X		X		1
22)	Binary Systems Priorities						
23)	Local Regional Interests		X				1
	Totals	11	12	8	10	11	52

TABLE 7

MAJOR EXTERNAL FORCES

	Force	V-C	S-P-V-C	P-V-C	S & R	P.O.	T
1)	Local Community		X				1
2)	Research Councils	X	X	X	X	X	5
3)	Demographics		X		X	X	3
4)	Industry/Business	X	X	X	X	X	5
5)	Other Universities		X	X			2
6)	Other Binary Institutions		X				1
7)	Government		X			X	2
8)	Potential Students	X			X	X	3
9)	Independent Foundations					X	1
10)	U.G.C.	X		X	X	X	4
11)	Technology	X	X	X		X	4
12)	D.E.S.			X	X	X	3
13)	Faculty (Supply)					X	1
14)	Alumni	X			X		2
15)	Economy		X		X		2
16)	C.V.C.P.	X		X	X		3
17)	A.U.T.			X			1
18)	Foreign Universities	X		X			2
19)	Academic Societies	X					1
20)	Local Government	X	X				2
	Totals	10	10	9	9	10	48

TABLE 8

ISSUES/FORCES PATTERNS

Issues (times mentioned)	**Forces (times mentioned)**
1) R & D Opportunities (4)	1) Business/Industry (5)
2) University Competition (4)	2) Research Councils (5)
3) Government Intervention (4)	3) U.G.C. (4)
4) Science/Tech Trends (4)	4) Technology (4)
5) R & D Excellence (3)	5) Demographics (3)
6) Govt. Funding Policies (3)	6) Potential Students (3)
7) Increasing Faculty Outputs (3)	7) D.E.S. (3)
8) Business/Industry Relations (3)	8) C.V.C.P. (3)
9) Research Funding Priorities (3)	
10) Employment Patterns (3)	

Linkage Patterns

Issue #	**Force # Linkage**
1	1, 2, 4
2	2, 3, 6, 7, 8
3	2, 3, 7, 8
4	1, 2, 4
5	1, 2, 3, 4, 7, 8
6	2, 3, 5, 6, 7, 8
7	2, 3, 7, 8
8	1, 2, 3, 4
9	2, 3, 7, 8
10	1, 5, 6

TABLE 9

EFQ SCALING SUMMARIES

Forces (times mentioned)	Questions[1] C/R	F/R	P/O	F/I	T/A	P/I	I
1) Local Community (1)	4[2]	2	4	4	4	3	4
2) Research Councils (5)	2	2.4	3	4.6	3	3.4	3.8
3) Demographics (3)	1.3	2.3	1.7	4	4.3	1.7	5
4) Industry/Business (5)	1.8	2.8	4	4.8	3	2.5	3.3
5) Other Universities (2)	2	1.5	2	3	3.5	1.5	2
6) Other Binary Institutions (1)	3	3	4	4	1	2	4
7) Government (2)	3.5	2	3	5	2.5	2.5	3.5
8) Potential Students (3)	1.5	4	1.5	4	2	2.5	4.5
9) Independent Foundations (1)	3	2	4	4	2	3	3
10) U.G.C. (4)	2.8	3	3.8	4.8	3	2.8	4
11) Technology (4)	2.7	3.3	4.7	5	2.3	2.7	3
12) D.E.S. (3)	3.7	2.3	4	4.7	2.3	2.7	3.7
13) Faculty (Supply) (1)	3	3	3	4	2	3	3
14) Alumni (2)	2	3.5	4	4	3	2	2.5
15) Economy (2)	3	3	3.5	3.5	3	2.5	3.5
16) C.V.C.P. (3)	2	3.7	2	4.6	3.7	2	4
17) A.U.T. (1)	2	2	2	3	3	2	3
18) Foreign Universities (2)	2	2.5	4	4.5	3	3	3
19) Academic Societies (1)	1	1	1	3	3	3	5
20) Local Government (2)	1.5	3	2.5	3.5	3	3	3.5

NOTES:

[1]C/R - Current Risk; F/R - Future Risk; P/O - Potential Opportunities; F/I - Future Impact; T/A - Time Available; P/I - Policy Implementation, I - Information (see Chapter 3, Exhibit 4A)

[2]Scales are 1-5; 5 being the highest/most. Arithmetic means are given.

TABLE 10

FORCE RANKINGS

	C/R	F/R		P/O		F/I		T/A		P/I		I	
Rank	**Force#**[1]	**R**	**F**	**R**	**F**	**R**	**F**	**R**	**F**	**R**	**F**	**R**	**F**
1	7	1	6	1	4	1	4	1	5	1	2	1	5
2	3	2	8	2	1	2	1	2	8	2	3	2	6
3	4	3	4	2	7	2	3	3	1	3	4	3	3
4	2	4	3	3	3	3	7	3	2	3	7	3	8
4	8	5	1	4	2	4	2	3	3	4	1	4	2
5	1	6	2	5	8	4	8	4	4	4	6	5	7
6	6	7	5	6	5	5	5	4	7	5	8	6	1
7	5	7	7	7	6	5	6	5	6	6	5	7	4

NOTES:

[1]Force # : 1 - Business/Industry
2 - Research Councils
3 - U.G.C.
4 - Technology
5 - Demographics
6 - Potential Students
7 - D.E.S.
8 - C.V.C.P.

2. Business/Industry and Technological forces tie for second placing (four out of eight times), and

3. both Demographic and Potential Student forces rank third while Research Councils and the C.V.C.P. rank fourth.

The major shifts in rankings between Table 8 and the rankings that result from the Table 10 analyses can be seen below -

Rank	Table 8
1	Business/Industry, Research Councils
2	U.G.C., Technology
3	Demographics, Potential Students
4	D.E.S., C.V.C.P.

Rank	Table 10
1	U.C.G., D.E.S.
2	Business/Industry, Technology
3	Demographics, Potential Students
4	C.V.C.P., Research Councils

And from the above chart, it can be seen that the D.E.S. and the Research Councils account for the most noticeable shifts. This can be attributed to the fact that when the administrators quantified their opinions, D.E.S. became more, and the Research Councils less, critical.

Table 11 summarizes the Issues Sector Information Matrix (ISIM) linkages between the issues mentioned in Tables 6 and 8, and the information sources the administrators use to monitor them. From this data it can be seen that:

TABLE 11

ISIM LINKAGES

P - Personal
W - Written
L - Local
N - National
F - Foreign

Sector	BUSINESS/INDUSTRY						GOVERNMENT						UNIVERSITIES						ACADEMIC BODIES/ASSOCIATION						PROFESSIONAL BODIES/ASSOCIATION							
Location	L		N		F		L		N		F		L		N		F		L		N		F		L		N		F			
Info Source	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	T	%
Issues																																
Vice-Chancellor (11 Issues)	2	1	5	6					3	4					3	3					4	4					5	5			45	123%
Senior-Pro-V-C (12)	3	2	4	3	1	1	3	2	3	7		3	5	4	8	6	4	1	4	4	5	5	2	2	2	2	3	3	1	1	94	25%
Pro-V-C (8)	2	2	2						4	6		4			3	3	3	2			3	4		2	1	1	2	2	1	1	48	13%
Secretary & Registrar (10)	3	3	4	4	3	2	6	2	7	5	2	2	4	4	8	8	6	6	1		3	3	3	3	3	2	4	4	2	2	109	29%
Planning Officer (11)	2		2						9	9	2	4			11	9	4	7			6	7	5	4			1	1			83	21%
Source Totals	12	8	17	13	4	3	9	4	26	31	4	13	9	8	33	29	17	16	5	4	21	23	10	11	6	5	15	15	4	4	379	100%
Location Totals	20		30		7		13		57		17		17		62		33		9		44		21		11		30		8		379	100%
Sector Totals	57 (15%)						87 (23%)						112 (30%)						74 (19%)						49 (13%)						379	100%

Linkage Total 379 (100%)

1. the key sectors of information networking are

   - Universities 30% (of total)
   - Government 23%
   - Academic Associations 19%
   - Business/Industry 15%
   - Professional Associations 13%

2. the location focus is oriented as

   - national 59%
   - foreign 23%
   - local 18%

3. the total information source distribution is 51% personal and 49% written, and

4. the Secretary and Registrar, S-P-V-C, and Planning Officer, in rank order, dominate the total contact linkages, ahead of the V-C and P-V-C, by an approximate 2:1 ratio.

Table 12 summarizes these linkage data. When compared to the GIN linkages in Table 5, it is interesting to see how, in Table 12, now all the information sources are relatively balanced--and the mean is almost a perfect 50/50 split. Undoubtedly, the 'foreign' location data has contributed to the shift. It is also worth noting that both 'local' and 'foreign' location linkages are balanced, suggesting the administrators are equally focused on both their short and long distance environments.

TABLE 12

ISIM LINKAGE ANALYSES

Sector	% Forces	Location			Info Source	
		L	N	F	Personal	Written
Business/Industry	15%	35%	53%	12%	58%	42%
Government	23%	15%	66%	19%	45%	55%
Universities	30%	15%	55%	30%	53%	47%
Academic Assoc.	19%	12%	59%	29%	49%	51%
Professional Assoc.	13%	22%	61%	17%	51%	49%
Means	20%	20%	59%	21%	51%	49%

Summary

The University of Bath is well on its way to developing an effective strategic planning system. With a well-integrated committee structure in place, it is possible for Bath to develop information gathering and networking strategies based on those issues and forces the administrative team collectively feels warrants their attention.

With the aforementioned data it would be possible to develop policies with which to ensure a complete and balanced information network is established, and that the efforts are distributed across the administrative team so as to balance each member's contact strengths with their issues and forces planning perspectives/interests. Once integrated with the Planning Officers' comparative statistical data base, the resulting management information system and network should enable the University of Bath to effectively chart its future direction more effectively.

Part B - The University of Birmingham

Introduction

The University of Birmingham, a large full-service 'Civic' university providing academic and professional training across most disciplines, was established as Mason College in 1880 and incorporated by charter into the University of Birmingham in 1900.

Located in Birmingham, England's second largest city with an approximate population base of 1,200,000. in 1983. it offers courses to 8,463 full-time and 970 part-time students. Of the total enrollment of 9,613, 23% pursue post-graduate studies (up through doctoral levels), and 12% are foreign students.

New admissions, currently 3,715, have been restricted due to the U.G.C., and have been cut back by 2% between the 1981-1983 academic years.

The university's 934 faculty (7% part-time) are primarily organized into the six Faculties of:

- Faculty of Science and Engineering
- Faculty of Arts
- Faculty of Medicine and Dentistry
- Faculty of Commerce and Social Science
- Faculty of Law
- Faculty of Education

The total revenue of L 49,100,000 is derived mainly from grants (61%), academic fees (20%), and research (13%).

Of the L 48,900,000 expenditures, academic salaries account for 65%, physical plant 16%, and academic and administrative services for 16%--a typical distribution pattern.

Organization and Planning

Figure 1 presents the central organization structure as confirmed by the Senior-Pro-Vice-Chancellor and Vice-Principal, Dr. Fage. Currently, there are no formal organization charts or organization planning documents that have been developed by the senior administrative team at the university.

Up until 1983, the major planning committees were the Committee of Principals and Deans (Senate) and the Finance and General Purposes Committee (Council). The Finance Committee, and its sub-committees, would determine the financial requirements plans, and the Principals and Deans Committee would focus on the resource allocation decisions. Little long-term or strategic planning characterized the committees' agendas.

In early 1984, in response to the U.G.C.'s '29 Questions' and to increased financial pressures, the Vice-Chancellor established a new Vice-Chancellor's Planning Committee with the mandate to develop long-term policy options with which the Principal and Deans and Finance Committees could plan around.

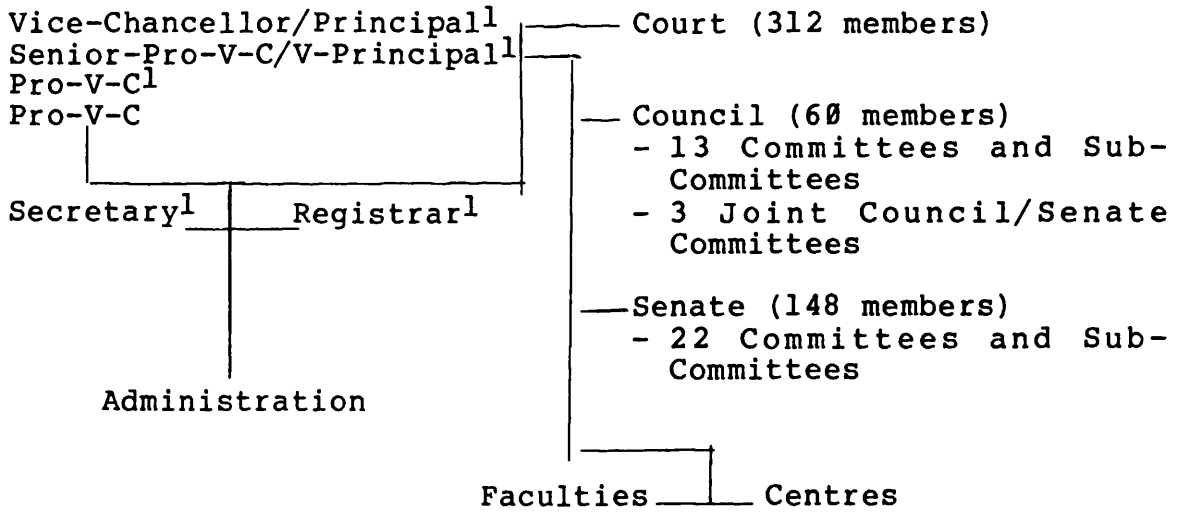
Comprised of the Deputy-Pro-Chancellor, the Treasurer, all Pro-Vice-Chancellors and the Vice-Chancellor, as Chairman, it was felt that by adding the two lay executives to this

group, the perspectives developed would adequately address both the internal and external issues Birmingham University needed to consider in its future strategies.

All the senior administrators are looking forward to engaging in this new approach to strategic planning since they all seemed to be less than satisfied with the processes (and accomplishments) of the Principals and Deans, and Finance Committees.

FIGURE 1

ORGANIZATION CHART



NOTES:

[1]Participated in project

Organizational Analysis

To help insure that Birmingham's new planning initiative is, in fact, effective, the information with which this new committee plans must be representative of the collective influences impacting on the university and its constituents.

Table 1 summarizes background data on the key members of the senior administrative team interviewed. From this table two points bear mentioning:

1. the major age of 58.2 years is quite high and coupled with a mean university-related work experience of 25.2 years suggests this team should be well versed in university affairs, and

2. there is no training or disciplinary overlap which should be considered when replacing these members since several will be retiring over the next few years--it should be considered relative to the training backgrounds regarding management since 'university management techniques' was one of higher ranked issues (to be discussed in Table 4). The Secretary (Law) and Pro-V-C (Accounting) have management related backgrounds.

Table 2 depicts the administrative team's internal committee networking, demonstrating the potential for information sharing by and through the key administrators. As could be expected, the Vice-Chancellor and the Senior-Pro-Vice-Chancellor dominate the networking totals and are both over the mean of 21.6 contacts for the team. The key linkages are between the Vice-Chancellor and Senior-Pro-Vice-Chancellor (13), followed by the Senior-Pro-Vice-Chancellor and the

Pro-Vice-Chancellor (8), the Vice-Chancellor and Pro-Vice-Chancellor (7), and the Senior-Pro-Vice-Chancellor and Secretary (6). This overlap is more than adequate.

TABLE 1

ADMINISTRATIVE PROFILE

Person	Position	Age	Training[1]	Years In Position	Years At School	Years In University[2]
Dr. Marsland	V-C and Principal	60	Medicine	3	19	17
Dr. Fage	Senior Pro-V-C and V-Principal	63	History	3	14	29
Prof. Samuels	Pro-V-C	47	Accounting	2	10	15
Mr. Harris	Secretary	61	Law	18	34	34
Mrs. Hutton	Registrar	60	English	3	20	20

NOTES:

[1]for highest degree

[2]work-related

TABLE 2

INTERNAL COMMITTEE[1] NETWORKING

	V-C	S-P-V-C	P-V-C	Secretary	Registrar	T
V-C	-	13	7	4	3	27
S-P-V-C	13	-	8	6	4	31
P-V-C	7	8	-	3	2	20
Secretary	4	6	3	-	4	17
Registrar	3	4	2	4	-	13
Total	27	31	20	17	13	108

Total 108

Mean 21.6

NOTE:

[1]Includes overlaps in Court, Council, Senate, Committees of Council, Committees of Senate, and Joint Committees of Council and Senate.

TABLE 3

SOQ FOCAL POINTS

	V-C	S-P-V-C	P-V-C	Secr.	Reg.
Internal vs. External Orientation (I,E)	I/E	I/E	E	I/E	I
Stable vs. Less Stable Environment (S,L)	L	L	S	S	L
Flexible vs. Less Flexible University (F,L)	L	L	L	L	F
Prepared for Future (Yes, No)	N	N	N	N	N
Improved External Info. Networks (Y,N)	Y	Y	Y	Y	Y
Changing External Forces (Y,N)	Y	Y	Y	Y	Y

TABLE 4

SOQ FOCAL POINT ANALYSIS

A) **Organization**

Environment	**Lo Flex**	**Hi Flex**
Hi Stability	1 P-V-C Sec.	2
Lo Stability	3 V-C S-P-V-C	4 Reg.

B) **Information Networking**

Future Preparedness	**Yes**	**No**
Yes	1	2
No	3 All	4

C) **Orientation**

Changing Forces	**Internal**	**External**
No	1	2
Yes	3 Reg.	4 V-C S-P-V-C Sec.

NOTE: Cells 1 and 4 are compatible
Cells 2 and 3 are less compatible

Table 3 summarizes key Situational Overview Questionnaire (SOQ) probes relative to the perspectives held by the administrative team. Table 4 analyzes and groups these responses into three four-celled matrices. In each matrix, cells one and four represent compatible, and cells two and three less compatible, perspectives and situations. Based on the answers given by the administrators (Table 3), they are placed in the corresponding matrix and cell.

In matrix A, only the Vice-Chancellor and Senior-Pro-Vice-Chancellor share incompatible perspectives, but all administrators (matrix B) agree that their situation is incompatible relative to being prepared for the future. In matrix C, with the exception of the Registrar, all other administrators believe they have an external orientation in their duties and responsibilities which is compatible with their view of changing external forces. Overall, the compatibility rating of 33% is low (five compatible placings out of 15 possible).

Table 5 summarizes the Government Information Network (GIN) linkage patterns between the administrators and the government departments they have personal and/or written contact with. These results suggest that:

1. the areas with the most total contact overlap and underlap (relative to a potential of 10 contact points--five administrators times two contact options) are:

TABLE 5

GIN LINKAGES

	National	V-C		S-P-V-C		P-V-C		Secr.		Reg.		S-T		T
		2[1]	3[2]	2	3	2	3	2	3	2	3	2	3	
1)	Agriculture	X	X									1	1	2
2)	Customs		X						X				2	2
3)	Defence	X	X		X			X	X			2	3	5
4)	Education	X	X	X	X		X	X	X	X	X	4	5	9
	- Research Councils	X	X		X		X		X		X	1	5	6
5)	Employment	X	X				X					1	2	3
6)	Energy		X						X				2	2
7)	Environment		X										1	1
8)	Export					X	X					1	1	2
9)	Foreign		X	X	X				X		X	1	4	5
10)	Health	X	X		X							1	2	3
11)	Home Office	X	X		X			X			X	1	4	5
12)	Industry	X	X			X	X	X	X			3	3	6
13)	Information		X		X						X		3	3
14)	Revenue						X						1	1
15)	Law		X										1	1
16)	Lord Chancellor													
17)	Management													
18)	Ordnance		X					X	X			1	2	3
19)	Overseas Dev.		X		X	X	X			X	X	2	4	6
20)	Parl. Counsel		X										1	1
21)	Paymaster							X	X			1	1	2
22)	Census													
23)	Procurator		X									1		1
24)	Stationary						X						1	1
25)	Trade	X	X			X	X	X	X			3	3	6
26)	Transporation	X	X				X		X			1	3	4
27)	Treasury					X	X					1	1	2
28)	Welsh Office													
	Sub-Totals	10	20	2	8	5	11	7	11	2	6	26	56	82
	Totals	30		10		16		18		8		82		82

NOTES:

[1] 2 represents personal contacts
[2] 3 represents primarily written contacts

Overlap	Underlap
Education (9)	Transportation (4)
Research Councils (6)	Employment (3)
Industry (6)	Health (3)
Overseas Development (6)	Information (3)
Trade (6)	Ordnance (3)
Defence (5)	
Foreign Office (5)	(the 15 other departments)
Home Office (5)	

2. written contact dominates the linkage pattern (68% - 56/82) over the personal contacts (32% - 26/82)

3. the administrators demonstrate a wide range of government contact patterns -

Administrator	% of Total Contact		% Personal: Total
Vice-Chancellor	37%		33%
Senior-Pro-V-C	12%		20%
Pro-V-C	16%		31%
Secretary	22%		39%
Registrar	9%		25%
	100%	Mean	30%

4. from the chart above, it can be seen that the V-C clearly dominates the total contact pattern and that all team members share a fairly similar personal contact range relative to the 30% mean.

Table 6 lists those issues the administrators felt were influencing their university and consequent planning focus. Table 7 lists the major external forces felt to be exerting the most pressure/influence on the institution. When these dominant issues and forces are combined, the linkage patterns, as detailed in Table 8, emerge.

TABLE 6

MAJOR PLANNING ISSUES

	Issues	V-C	S-P-V-C	P-V-C	Secr.	Reg.	T
1)	Alternate Funding	X	X	X	X	X	5
2)	Government Funding		X	X	X	X	4
3)	Unionism			X	X		2
4)	International R & D Opportunities		X	X			2
5)	University Management Techniques		X	X	X	X	4
6)	R & D Opportunities	X		X			2
7)	Student Quality			X		X	2
8)	Government Intervention Policies	X	X	X	X	X	5
9)	Technological Trends			X			1
10)	Computerization Trends			X	X	X	3
11)	Research Funding Priorities	X	X		X	X	4
12)	Demographic Changes		X		X		2
13)	Student Markets				X		1
14)	Public Relations/Expenditures	X					1
15)	Economic Pressures	X					1
16)	University Competitiveness	X	X	X			3
17)	Physical Plant Management		X				1
18)	Faculty/Quality/Productivity	X	X				2
19)	Business/Industry Relationships		X	X	X		3
Totals		8	11	12	10	7	48

TABLE 7

MAJOR EXTERNAL FORCES

	Force	V-C	S-P-V-C	P-V-C	Secr.	Reg.	T
1)	C.V.C.P.		X	X	X		3
2)	U.G.C.		X	X	X	X	4
3)	Business/Industry	X	X	X	X		4
4)	Demographics		X				1
5)	Independent Foundations		X		X		2
6)	N.A.B.		X				1
7)	City Council		X	X			2
8)	D.E.S.		X	X	X	X	4
9)	Research Councils	X	X	X	X	X	5
10)	Academic Societies		X				1
11)	Polytechnics		X				1
12)	Society	X					1
13)	Government	X					1
14)	Other Universities	X		X	X	X	3
15)	Foreign Universities	X		X			2
16)	E.E.C.	X					1
17)	British Council	X					1
18)	Technology			X			1
19)	Computerization			X			1
20)	Potential Students					X	1
21)	Examining Boards					X	1
22)	A.U.T.				X	X	2
23)	N.S.U.					X	1
24)	University Administrators				X		1
25)	Foreign Governments			X			1
26)	Foreign Students					X	1
	Totals	8	11	11	9	9	48

TABLE 8

ISSUE/FORCES PATTERNS

Issues (times mentioned)

1) Alternative Funding (5)
2) Government Intervention (5)
3) Government Funding (4)
4) University Management Techniques (4)
5) Research Funding (4)
6) Business/Industry Relationships (3)
7) University Competition (3)
8) Computerization Trends (3)

Forces (times mentioned)

1) Research Councils (5)
2) U.G.C. (4)
3) Business/Industry (4)
4) D.E.S. (4)
5) Other Universities (4)
6) C.V.C.P. (3)
7) Independent Foundations (2)
8) City Council (2)
9) A.U.T. (2)
10) Foreign Universities (2)

Linkage Patterns

Issue #	Force # Linkage
1	3, 5, 7, 8, 10
2	2, 4
3	1, 2, 4, 5, 6, 7
4	5, 6, 10
5	1, 2, 3, 4, 7, 10
6	3, 7, 8
7	5, 10
8	3, 5, 10

Table 9 summarizes the External Forces Questionnaire (EFQ) and presents the means of the scaled scores the administrators gave to each of the seven questions asked about each force they identified. When this data is related to the ranked data in Table 8, it becomes possible to re-develop the list of forces in rank order of the administrators' concensus about the urgency and impact of these forces. As developed in Table 10, the purpose here is to identify those forces that are deemed to be most urgent, relative to action required via the university's planning process. And action should be taken concerning those forces that rank highest in EFQ questions 1, 3, 4, and 7, and lowest in questions 2, 5, and 6.

TABLE 9

EFQ SCALING SUMMRIES

Force (times mentioned)	Questions[1] C/R	F/R	P/O	F/I	T/A	P/I	I
1) C.V.C.P. (3)	2[2]	1.3	2.7	3	3.7	2	3
2) U.G.C. (4)	2.8	2	3	3	2.8	3	3.5
3) Business/Industry (4)	3	1.3	4.5	4.5	2.5	3	3.3
4) Demographics (1)	2	2	3	3	3	4	3
5) Independent Foundations (2)	3.5	2	2.5	3.5	3	2	3
6) N.A.B. (1)	2	3	3	4	2	3	2
7) City Council (2)	3.5	1.5	3	3.5	2.5	2	3.5
8) D.E.S. (4)	3.5	2.5	3.8	4.8	2.8	3	3.5
9) Research Councils (5)	2.6	1.8	3	4.8	3.4	2.6	3.8
10) Academic Societies (1)	2	2	3	3	4	2	4
11) Polytechnics (1)	3	3	4	4	3	3	3
12) Society (1)	1	1	2	2	5	3	4
13) Government (1)	5	5	4	5	2	3	5
14) Other Universities (4)	1.8	2	2.6	4.6	3.2	3	3.8
15) Foreign Universities (2)	1.5	2.5	4	4.5	4	2.5	3
16) E.E.C. (1)	1	1	2	3	5	4	3
17) British Council (1)	1	1	1	2	5	1	2
18) Technology (1)	2	3	4	4	2	2	3
19) Computerization (1)	2	3	4	4	2	2	3
20) Potential Students (1)	2	3	4	4	3	4	3
21) Examining Boards (1)	3	3	3	4	3	3	4
22) A.U.T. (2)	2.5	3	1.5	3.5	2.5	4.5	3.5
23) N.S.U. (1)	1	2	2	3	4	3	3
24) University Administration (1)	2	2	3	3	4	2	3
25) Foreign Governments (1)	2	3	4	3	3	3	3
26) Foreign Students (1)	4	4	4	3	3	3	3

NOTES:

[1] C/R - Current Risk; F/R - Future Risk; P/O - Potential Opportunities; F/I - Future Impact; T/A - Time Available; P/I - Policy Implementation; I - Information (see Chapter 3, Exhibit 4A)

[2] Scales are 1 - 5; 5 being the highest/most. Arithmetic means are given.

TABLE 10

FORCE RANKINGS

Questions

C/R		F/R		P/O		F/I		T/A		P/I		I	
Rank	**Force#[1]**	**R**	**F**	**R**	**F**	**R**	**F**	**R**	**F**	**R**	**F**	**R**	**F**
1	4	1	9	1	3	1	1	1	10	1	9	1	1
1	7	2	4	2	10	1	4	2	6	2	2	1	5
1	8	2	10	3	4	2	5	3	9	2	3	2	2
2	3	3	2	4	1	3	3	4	5	2	4	2	4
3	2	3	5	4	2	3	10	5	7	2	5	2	8
4	1	3	7	4	8	4	7	6	1	3	1	2	9
5	9	4	1	5	6	4	8	6	2	4	10	3	3
6	6	5	8	6	5	4	9	7	3	5	6	4	6
7	5	6	3	7	7	5	2	7	4	5	7	4	7
8	10	6	6	8	9	5	6	7	5	5	8	4	10

NOTES:

[1]Forces # - 1 - Research Councils
2 - UGC
3 - Business/Industry
4 - DES
5 - Other Universities
6 - CVCP
7 - Independent Foundations
8 - City Council
9 - AUT
10 - Foreign Universities

Using these action criteria, and reviewing the results from Table 10, the forces, in rank order of most importance (and those deserving most action focus) are:

1. CVCP (appears six out of seven times in the top 50% of the rankings of questions 1, 3, 4, and 7, and one out of seven times in the bottom 50% of questions 2, 5, and 6);
2. Business/Industry and the D.E.S. are tied for second (five out of seven times);
3. City Council, and
4. U.G.C., Other Universities, Independent Foundations, and Foreign Universities.

The difference in ranking between these forces and the ranking in Table 8 is highlighted in the summary chart below.

Rank	Table 8
1	Research Councils
2	U.G.C., Business/Industry D.E.S., Other Universities
3	C.V.C.P.
4	Independent Foundations, City Council, A.U.T., Foreign Universities

Rank	Table 10
1	Research Councils
2	Business/Industry, D.E.S.
3	City Council
4	U.G.C., Other Universities, Independent Foundations, Foreign Universities
5	C.V.C.P.
6	A.U.T.

With the exception of the drop of two rankings positions for the C.V.C.P. and the A.U.T., which results from the administrators scoring these two forces less urgent than their 'times mentioned' rankings in Table 8 would indicate, all shifts are marginal.

Table 11 summarizes the Issue Sector Information Matrix (ISIM) linkages between the issues mentioned in Tables 6 and 8, and the information sources the administrators use to monitor them. From this data it can be seen that:

1. the key sectors of information networking are

   - Universities 31% (of total)
   - Government 19%
   - Academic Assoc. 18%
   - Business/Industry 17%
   - Professional Assoc. 15%

2. the location focus is oriented as

   - national 54% (of total)
   - local 26%
   - foreign 20%

3. the total information source distribution is 47% personal and 53% written, and

4. the Vice-Chancellor clearly dominates the total contact linkages by a 2:1 ratio over the other administrators who are fairly equal relative to their total contact linkages.

TABLE 11

ISIM LINKAGES

P - Personal
W - Written
L - Local
N - National
F - Foreign

Sector	BUSINESS/INDUSTRY						GOVERNMENT						UNIVERSITIES						ACADEMIC BODIES/ASSOCIATION						PROFESSIONAL BODIES/ASSOCIATION							
Location	L		N		F		L		N		F		L		N		F		L		N		F		L		N		F			
Info Source	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	T	%
Issues																																
Vice-Chancellor (8 Issues)	5	3	2	6		8		8		8		8	8		8			8	2	6	1	7		8	3	5		8		8	120	36%
S-P-V-C (11)	1		2	2					5	7		1	4	1	8	3	4		1		7	4	3	2	2	2	2	1		62	18%
P-V-C (12)	4		6	1	1		1		4	6			2	1	5	5	5	1			2	4	2		2	3	3	1	4		52	18%
Secretary (10)	4		4		2				5	6			2		6	4	1	1			2	5					2				44	13%
Registrar (7)	2	2	1	2						4			7	7	7	7						6			1		1	2			49	15%
Source Totals	16	5	15	11	3	8	1	8	14	31		9	23	9	34	19	10	10	3	6	12	26	5	8	8	9	8	13	5	8	337	100%
Location Totals	21		26		11		9		45		9		32		52		20		9		38		13		17		21		13		337	100%
Sector Totals	58 (17%)						63 (19%)						105 (31%)						60 (18%)						51 (15%)						337	100%

Linkage Total 337 (100%)

Table 12 summarizes these linkage data. When compared with the GIN linkages in Table 5, it is interesting to see the consistency in the information source focus--where the written information networks dominate all sectors, except Business/Industry and Universities. Also, the national information orientation dominates the other two locations by more than a 2:1 ratio.

TABLE 12

ISIM LINKAGE ANALYSIS

Sector	% Forces	Location			Info Source	
		L	N	F	Personal	Written
Business/Industry	17%	36%	45%	19%	59%	41%
Government	19%	14%	72%	14%	24%	76%
Universities	31%	30%	50%	20%	64%	36%
Academic Assoc.	18%	15%	63%	22%	33%	67%
Professional Assoc.	15%	33%	41%	26%	44%	56%
Means	20%	26%	54%	20%	44%	56%

Summary

Even though Birmingham University does not yet have a fully integrated strategic planning system, it is possible for it to develop information gathering and networking strategies based on the issues and forces the administrative team collectively feels warrant their attention.

With the aforementioned data, it would be possible to develop policies with which to ensure a complete and balanced information network is established and that the efforts are distributed across the administrative team so as to balance each members contact strengths with their issues and forces planning perspectives/interests.

Part C - Dalhousie University

Introduction

Dalhousie University, a full-service institution providing academic and professional training in most disciplines, was established in 1818 as Dalhousie College, chartered in 1863 to grant degrees.

Located in Halifax, Nova Scotia, with a population base of approximately 265,000, as of the 1982/83 academic year, it is offering courses to 7,584 full-time and 1,677 part-time students. Of the total enrollment of 9,261, which has grown at the rate of between 3-4% per year over the last five years, 15% pursue graduate studies (masters and doctoral levels), and 6% are foreign students.

The university's 813 faculty (11% part-time) are organized into Schools, Institutes, and Departments, which are grouped into the seven Faculties of:

- Faculty of Administrative Studies
- Faculty of Arts and Science
- Faculty of Dentistry
- Faculty of Graduate Studies
- Faculty of Health Professions
- Faculty of Law
- Faculty of Medicine

The total revenue of $77,200,000, is derived mainly from grants (64%), academic fees (18%), research (10%), and ancillaries (5%).

Organization and Planning

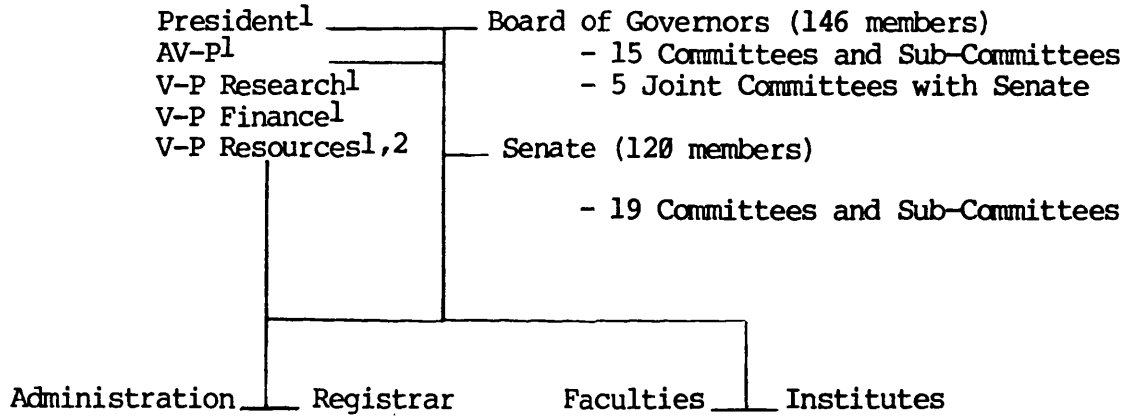
Figure 1 presents the central organization structure as confirmed by the Vice-President of Resources and Planning, Dr. Cameron. Figures 2, 3, and 4 present the separated structures as developed by the Planning Officer, Mr. Traversy, during the 1982/83 planning reorganization. These figures detail the reporting responsibilities and relationships for the administrative team.

During the 1983 academic year, as a result of both an increasing operating deficit and a belief that the government's support for the university would not keep pace with inflation, the President instituted a President's Consultative Committee on University Planning. This new Committee is primarily responsible for the process of planning longer term strategies and ensuring the university's constituents are considered in the strategies. Its membership includes the President, the Planning Officer, the Vice-Presidents of Finance and Resource and representatives from each of Senate, the Faculty Association, Alumni, the Student Union, the Staff Associations, and the non-union Administrative Group.

The Consultative Committee works closely with the Senate's Academic, Physical, and Financial Planning Committees. The Consultative Committee's role is to generate plans and the Senate's Planning Committee's role is to respond to them.

FIGURE 1

ORGANIZATIONAL CHART



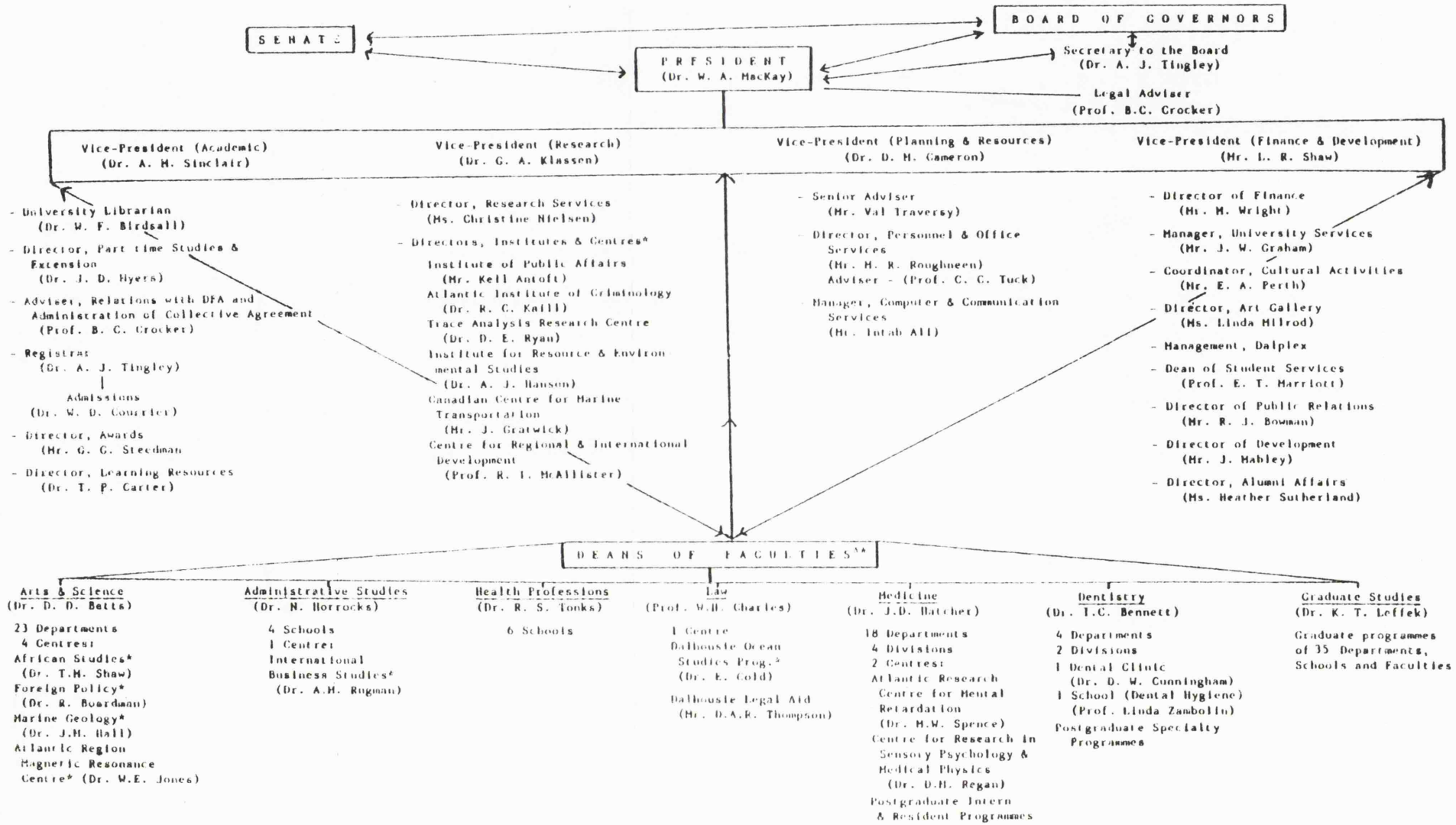
NOTES:

[1]participated in project

[2]Planning Officer is Senior Advisor to V-P Resources

FIGURE 2

SENIOR ADMINISTRATIVE OFFICERS' REPORTING ARRANGEMENTS



* Directors of Centres are responsible (through Deans where Deans have Administrative Supervision as noted under Deans of Faculties) to deal with Vice-President (Research) on all matters relating to external research grant applications and contracts, including applications, and staff, equipment and services.

** Deans of Faculties deal with all Vice Presidents in light of the latters' lead responsibilities, in all routine matters.

FIGURE 3

OFFICE OF THE PRESIDENT

Responsibilities of Vice-Presidents for Liason or Service with Committees

Vice-President (Academic)

Senate Committees
- Academic Planning
- (Financial Planning)
- (Academic Administration)**
- (Honorary Degrees)**
- Discipline
- University Hearing Committees*
- University Tenure Panels*
- Library Committee

(Proposed Board/Senate-President's Council)

Board Committees
- (Executive)**
- Relations with Other Institutions*
- Staff Relations*
- (Finance and Budget)
- (Staff Benefits)

Board/D.F.A. Standing Committees
- Association-Board Committee
- Salary Review

University Committees
- Library Systems***
- Relations with Prospective Students
- Student Attrition
- (Deans Council) **

Inter-Institutional Committees
- Metro Universities Committee

Vice-President (Research)

Senate Committees
- (Academic Planning)

University Committees
- Laboratory Animals*
- (Human Subjects)
- Radiation Safety*
- International Development Council*
- Dalhousie Ocean Studies Council*
- Council of Institutes and Centres*

Inter-Institutional Committees
- Hospital Liaison Committees
- AAU-MPHEC Academic Advisory Committee

Vice-President (Finance & Development)

Senate Committees
- Financial Planning
- Physical Planning

Board Committees
- Finance and Budget*
- Buildings and Grounds*
- Student Relations and Residences
- Alumni & Community Relations*

University Committees
- Bookstore
- Cultural Activities
- Housing***
- Security and Parking
- Council on Student Life
- Dalplex Advisory
- Sport and Recreation Council***
- Management, S.U.B.***
- Space, Renovations and Usage***

Inter-Institutonal Committees
- Metro Universities Committee

Vice-President (Planning & Resources)

Senate Committees
- (Academic Planning)
- Computing

Board Committees
- Staff Benefits
- (Staff Relations)
- (Pension Advisory)

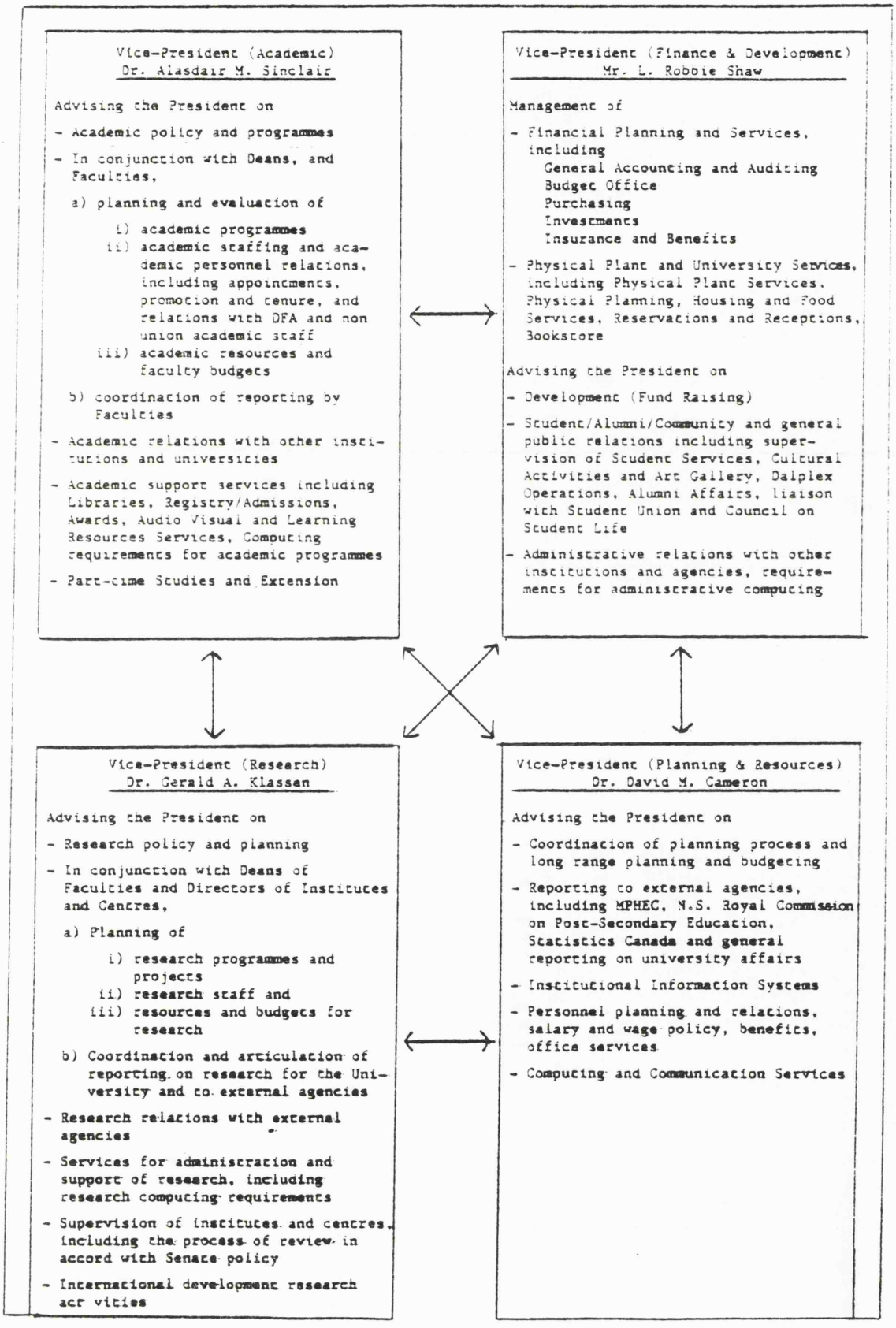
Board/D.F.A. Standing Committees
- Employee Benefits
- Patents and Copyrights
- Environmental Safety

University Committees
- Employment of Women, Handicapped Persons and Minority Groups
- Sexual Harrassment
- (Consultative Committee on the Process of University Planning)
- Computer Advisory Committee***
- Dalhousie University Computer Users Group

The President continues to be principally responsible for liaison or service to certain Senate, Board or other Committees.
Committees: underlined are those for which the Vice-President concerned has lead responsibility within the President's office.
listed in round brackets are committees with which the Vice-President concerned has secondary responsibilities or is involved for limited aspects of the Committee's concerns.
marked * are those for which the Vice-President concerned has responsibility for ensuring, so far as the President's Office is concerned, that appropriate administrative support is provided.
marked ** are committees for which the Vice-President (Academic) acts in the absence of the President
marked *** are university committees which have not recently been active and which, after review, may be terminated.

FIGURE 4

OFFICE OF THE PRESIDENT
Lead Responsibilities of Vice-Presidents



While the processes for these planning changes are still to be developed, the Consultative Committee has developed a list of planning priorities on which it intends to focus its activities, and these include:

1. Enrollment Policy:
   - consumer responsive or planned sizing?
   - need for participation research
   - need for effect of employment research
   - University's policy on part-time education
   - foreign students and mature students;
2. Review of university mission;
3. Review and development of criteria for scheduling, instruction, etc. designed to suit appropriate needs of students;
4. Develop management information system;
5. Plan for administrative computing;
6. Develop office systems plan;
7. Policy on support services for research;
8. Policy and priorities on university operating support to Institutes, Centres, Continuing Education Programmes, etc.;
9. Human resource planning;
10. Description of existing planning progress at Dalhousie;
11. Briefing structure for major university decisions;
12. Criteria and procedures for accurate program costing (existing and proposed including reductions and termination);
13. Description (simple) of existing governance structures.

As well, this Committee has also developed a list of action plans required to facilitate the President's new planning initiatives, and these include:

1. Develop a comprehensive student relations programme;

2. Develop a comprehensive community relations program
   - alumni
   - neighbourhood
   - benefactors
   - parents
   - government
   - business;

3. Development of specific targets for generation of external revenue
   - computer centre
   - annual giving
   - convention centre
   - dalplex
   - arts centre;

4. Review A.U.C.C. "Voucher" system study in terms of possible implications for Dalhousie;

5. Develop central services plan for metro "universities" and other institutions
   - M.I.S.
   - computer centre
   - staff training
   - research support and facilities
   - office systems
   - material management
   - benefit programme;

6. Further clarification of reporting and responsibility relationships in President's office;

7. Establishment of a staff training function in Personnel office
   - information function, etc.;

8. Definition of staffing information required for academic priorities work;

9. Establishment of a formal list of physical plant maintenance priorities;

10. Update - environmental consulting services report;

11. Energy conservation plan;

12. Develop strategy for increasing interaction of administrative and academic groups.

Organizational Analysis

In order to integrate the planning priorities and action plans, much internal and external information gathering and sharing must occur if the resultant future strategies are to be representative of Dalhousie's internal and external constituencies.

TABLE 1

ADMINISTRATIVE PROFILE

Person	Position	Age	Training[1]	Years In Position	Years At School	Years In University[2]
Dr. MacKay	President	54	Law	3	20	25
Dr. Sinclair	AV-P	44	Economics	1	20	20
Dr. Klassan	V-P Research	46	Medicine	2	9	15
Mr. Shaw	V-P Finance	45	Law	3	3	3
Dr. Cameron	V-P Resources	44	Public Admin.	3	11	18
Dr. Tingley	Registrar	63	Mathematics	11	31	35
Mr. Traversy	Planning	35	Public Admin.	11	2	2

NOTES:

[1]for highest degree

2work-related

Analysis

Table 1 summarizes background data on the key members of the senior administrative team interviewed. From this table two points bear considering:

1. the mean age of 47.3 years is relatively young (it drops to 44.6 years if the Registrar's age is discounted), and coupled with a mean university-related work experience of 16.9 years (13.8 when the Registrar is discounted) indicates that these members should have enough experience to manage their institution, and

2. there is good training overlap and reinforcement, between the economics, law, and public administration backgrounds, relative to university management and could help explain Dalhousie's well-documented planning processes and structures.

Table 2 depicts the administrative team's internal committee networking, demonstrating the potential for information sharing by and through the key administrators. As could be expected, the President dominates the networking totals, and along with the Academic Vice-President and Vice-President Resources, is over the mean of 11.4 contacts for the team. The key linkages are between the President and AV-P (6), followed by the President and V-P Resources (4). The other team members, with the exception of the Registrar, average around two contacts per member. This overlap is sufficient.

Table 3 summarizes key Situational Overview Questionnaire (SOQ) probes relative to the perspectives held by the administrative team. Table 4 analyzes and groups these responses into three four-celled matrices.

TABLE 2

INTERNAL COMMITTEE[1] NETWORKING

	President	AV-P	V-PR	V-PF	V-PR	Reg.	P.O.	T
President	-	6	2	3	4	1	2	18
AV-P	6	-	1	2	3	1	1	14
V-P Research	2	1	-	1	2	1	1	8
V-P Finance	3	2	1	-	3	1	1	11
V-P Resources	4	3	2	3	-	2	1	15
Registrar	1	1	1	1	2	-	1	7
Planning Officer	2	1	1	1	1	1	-	7
Totals	18	14	8	11	15	7	7	8Ø

Total 8Ø

Mean 11.4

TABLE 3

SOQ FOCAL POINTS

	Pres.	AV-P	V-PR	V-PF	V-PR	Reg.	P.O.
Internal vs. External Orientation (I,E)	I/E	I	I/E	I/E	I	I	I/E
Stable vs. Less Stable Environemnt (S,L)	L	L	L	L	L	S	L
Flexible vs. Less Flexible University (F,L)	L	F	L	L	L	L	L
Prepared for Future (Yes, No)	N	N	Y	Y	N	N	N
Improved External Info. Networks (Y,N)	Y	Y	Y	Y	Y	N	Y
Changing External Forces (Y,N)	Y	Y	Y	Y	Y	N	Y

TABLE 4

SOQ FOCAL POINT ANALYSIS

A) **Organization**

Environment	**Lo Flex**	**Hi Flex**
Hi Stability	1 Reg.	2
Lo Stability	3 Pres. V-P Rsch. V-PF V-PR P.O.	4 AV-P

B) **Information Networking**

Future Preparedness	**Yes**	**No**
Yes	1 V-P Rsch. V-PF	2
No	3 Pres. AV-P V-PR P.O.	4 Reg.

C) **Orientation**

Changing Forces	**Internal**	**External**
No	1 Reg	2
Yes	3 AV-P V-PR	4 Pres. V-P Rsch. V-PF P.O.

NOTE: Cells 1 and 4 are compatible
Cells 2 and 3 are less compatible

In each matrix, cells one and four represent compatible, and cells two and three less compatible, perspectives and situations. Based on the answers given by the administrators (Table 3), they are placed in the corresponding matrix and cell.

In matrix A there is general consensus (other than the Registrar and AV-P), that the present state-of-affairs is unacceptable due to the volatility of the environment coupled with a relatively inflexible organization. In matrix B, with the exception of the Registrar, all believe external networks are improving in spite of a disagreement between whether or not the university is prepared for the future (in favour of the negative).

With the exception of the Registrar, it can be seen in matrix C that there is a consensus that the external forces are continuing to change and influence the university. Four of the seven members feel their positions have a split internal/external orientation, while the Registrar, AV-P, and V-P Resources see their roles as primarily internal. Overall, the compatibility rating of 48% is low (10 compatible placings out of 21 possible).

Table 5 summarizes the Government Information Network (GIN) linkage patterns between the administrators and the government departments they have personal and/or written contact with. These results suggest that:

TABLE 5

GIN LINKAGES

		Pres. 2[1]	Pres. 3[2]	AV-P 2	AV-P 3	V-PR 2	V-PR 3	V-PF 2	V-PF 3	V-PR 2	V-PR 3	Reg. 2	Reg. 3	P.O. 2	P.O. 3	Sub-T 2	Sub-T 3	T
	Federal																	
1)	Agriculture					X	X									1	1	2
2)	Consumer/Corporate									X	X			X		2	1	3
3)	Defense	X	X				X									1	2	5
4)	Environment					X	X		X		X			X		1	4	5
5)	External Affairs		X	X	X	X	X	X	X					X		4	4	8
6)	Fisheries				X	X	X							X	X	2	2	4
7)	Health		X		X	X	X				X			X		2	4	6
8)	Industry	X	X			X	X	X	X	X	X			X	X	5	5	1Ø
9)	Labour						X				X			X		1	2	3
1Ø)	Research	X	X		X	X	X		X					X		3	4	7
11)	Statistics				X	X	X		X		X		X	X	X	2	6	8
12)	Supply				X	X	X		X							1	3	4
13)	Transport					X	X									1	1	2
14)	Veteran Affairs																	
15)	Communications						X		X		X			X		1	3	4
16)	Energy/Mines				X	X	X		X							1	3	4
17)	Indian/Northern					X	X									1	1	2
18)	Revenue					X	X		X		X					1	3	4
19)	Employment	X		X	X	X	X		X		X		X		X	3	6	9
2Ø)	Treasury Board										X		X				1	1
21)	Min. of State-Econ.					X	X				X			X		2	2	4
22)	Finance										X						1	1
23)	Justice	X		X			X									1	2	3
24)	Auditor General					X	X									1	1	2
25)	Public Works	X														1		1
26)	Regional/Industrial			X		X	X							X	X	2	3	5
27)	Min.of State-Sci/Tech	X				X	X							X		3	1	4
28)	Secretary of State					X	X							X		2	1	3
29)	Social Development																	
	Sub-Total	7	7	2	8	19	23	2	1Ø	2	12	-	2	13	5	45	67	112
	Provincial																	
1)	Agriculture/Mkt.					X	X									1	1	2
2)	Culture/Recreation	X				X	X	X	X						X	3	3	6
3)	Development				X	X	X	X	X		X			X		3	4	7
4)	Education	X	X		X	X	X	X	X		X			X	X	4	6	1Ø
5)	Environment							X	X							1	1	2
6)	Labour/Manpower		X			X	X		X							1	3	4
7)	Mines/Energy					X	X									1	1	2
8)	Social Services						X										1	1

Table 5 (Continued)

	Pres.		AV-P		V-PR		V-PF		V-PR		Reg.		P.O.		Sub-T		T
	2[1]	3[2]	2	3	2	3	2	3	2	3	2	3	2	3	2	3	
9) Tourism					X	X							X		2	1	3
10) Treasury Board		X			X	X		X					X		2	3	5
Sub-Total	2	3	-	2	8	9	4	6	-	2	-	-	4	2	18	24	42
Municipal																	
1) Mayor	X	X			X	X									2	2	4
2) City Manager					X	X									1	1	2
3) City Planner	X	X					X	X							2	2	4
Sub-Total	2	2	-	-	2	2	1	1	-	-	-	-	-	-	5	5	10
Sub-Totals	11	12	2	10	29	34	7	17	2	14	-	2	17	7	68	96	164
Totals	23		12		63		24		16		2		24		164		164

NOTES:

[1]2 represents personal contact

[2]3 represents primarily written contact

1. the areas with the most total contact overlap and underlap (relative to a potential of 14 contact points--seven administrators times two contact options) are:

Overlap	Underlap
Federal	
Industry (10)	Health (6)
Employment (9)	Environment (5)
External Affairs (8)	Regional Expansion (5)
Statistics (8)	
Research (7)	(the other 21 departments)
Provincial	
Education (10)	Culture (6)
Development (7)	Treasury Board (5)
	(the other 6 departments);

2. written contact dominates the linkage pattern (59% - 96/164) over the personal contacts (41%);

3. the administrators demonstrate a wide range of government contact patterns -

Administrator	% of Total Contact		% Personal: Total	
	Fed	Prov	Fed	Prov
President	13%	12%	50%	40%
AV-P	9%	5%	20%	--
V-P Research	38%	40%	45%	47%
V-P Finance	11%	24%	17%	40%
V-P Resources	11%	5%	14%	--
Registrar	2%	--	--	--
Planning Officer	16%	14%	72%	66%
	100%	100% Mean[1]	34%	48%

NOTE:

[1]mean calculated based on the number of administrators with a score

4. from the chart above, it can be seen that the V-P Research dominates both Federal and Provincial contact percentages and shows the best balance of personal: written contacts, and

5. in order of contact strength, the Planning Officer, the President and V-P Research, all use local city networks.

Table 6 lists those issues the administrators felt were influencing their university and consequent planning focus. Table 7 lists the major forces felt to be exerting the most pressure/influence on the institution. When these dominant issues and forces are combined, the linkage patterns, as developed in Table 8, emerge.

TABLE 6
MAJOR PLANNING ISSUES

	Issue	Pres.	AV-P	V-PR	V-PF	V-PR	Reg.	P.O.	T
1)	Federal Funding Policies	X		X	X			X	4
2)	Provincial Funding Policies	X	X	X	X	X	X	X	7
3)	University Mgmt. Techniques				X	X		X	3
4)	Technological Changes					X			1
5)	Computerization	X			X	X		X	4
6)	Prov. Univ. Cooperation		X			X		X	3
7)	Business/Industry Relations			X	X				2
8)	Ind. R & D Opportunities	X		X					2
9)	Non-Traditional Education			X					1
10)	Research Councils' Policies	X		X	X				3
11)	Student Mix Changes		X	X	X			X	4
12)	International Development			X					1
13)	National Univ. Info. Sharing	X	X		X				3
14)	Unionism		X						1
15)	P.R. With Society		X				X		2
16)	Secondary School Quality		X						1
17)	Role of MPHEC	X	X			X			3
18)	Fund Raising	X						X	2
19)	Physical Plant Dev.	X							1
20)	Alumni Development	X							1
21)	Local University's Competition	X			X				2
22)	Quality of Faculty/Education				X		X	X	3
23)	Employment Patterns		X		X				2
24)	Demographic Changes		X			X	X		3
	Totals	11	10	8	11	7	4	8	59

TABLE 7

MAJOR EXTERNAL FORCES

	Force	Pres.	AV-P	V-PR	V-PF	V-PR	Reg.	P.O.	T
1)	Provincial Government	X	X	X	X	X	X	X	7
2)	Department of Education	X	X			X			3
3)	Federal Government	X	X	X	X	X	X	X	7
4)	Business/Industry	X		X	X	X		X	5
5)	Public/Society	X				X			2
6)	Other Canadian Universitieas				X				
7)	Other Provincial Universities	X	X	X	X	X			5
8)	Potential Students		X	X			X	3	
9)	MPHEC	X	X	X	X			4	
10)	Research Councils			X				1	
11)	International Dev. Organizations			X				1	
12)	Royal Commission		X					1	
13)	Economy	X					X	2	
14)	Unions						X	1	
15)	Technology						X	1	
	Totals	8	7	8	6	6	3	6	44

TABLE 8

ISSUE/FORCES PATTERNS

Issues (times mentioned)

1) Provincial Funding (7)
2) Federal Funding (4)
3) Computerization (4)
4) Student Mix (4)
5) University Management (3)
6) University Cooperation (3)
7) Research Councils Priorities (3)
8) Univ. Info. Sharing (3)
9) Role of MPHEC (3)
10) Faculty Quality (3)
11) Demo. Changes (3)

Forces (times mentioned)

1) Provincial Government (7)
2) Federal Government (7)
3) Business/Industry (5)
4) Other Universities (5)
5) MPHEC (4)
6) Department of Education (3)
7) Potential Students (3)

Linkage Patterns

Issue #	Force # Linkage
1	7, 4, 5, 6, 7
2	1, 4, 5, 6, 7
3	3, 4
4	7
5	4, 5
6	4, 5, 6
7	2, 3
8	4, 6
9	1, 4, 5, 6
10	1, 2, 5, 6
11	7

Table 9 summarizes the External Forces Questionnaire (EFQ) and presents the means of the scaled scores the administrators gave to each of their seven questions asked about each force they identified. When this data is related to the ranked data in Table 8, it becomes possible to re-develop the list of forces in rank order of the administrators' consensus about the urgency and impact of these forces. As developed in Table 10, the purpose here is to identify those forces that are deemed to be most urgent. relative to action required via the planning process. And action should be taking concerning those forces ranking highest in EFQ questions 1, 3, 4, and 7, and lowest in questions 2, 5, and 6.

Using these action criteria, and re-tabulating the results from Table 10, the forces, in rank order of most importance (and those deserving most action focus) are:

1. the Federal Government, Business and Industry, and the Provincial Department of Education all tied (they appeared five out of seven times in the top 57% of the rankings of questions 1, 3, 4, and 7, and two out of seven times in the bottom 57% of questions 2, 5, and 6);

2. the Provincial Government and Potential Student forces both tied for second priority ranking (four out of seven times), and

3. other universities and the MPHEC, while also found important, were ranked lower than the aforementioned forces.

TABLE 9

EFQ SCALING SUMMARIES

Forces (times mentioned)	Questions[1] C/R	F/R	P/O	F/I	T/A	P/I	I
1) Provincial Government (7)	3.6[2]	3.4	2.4	4.6	3	3.4	3.1
2) Department of Education (3)	3.3	3	3.3	3.7	3	2.7	2.7
3) Federal Government (7)	2.9	2.7	2.6	4.3	3.1	3	2.9
4) Business/Industry (5)	3.4	2.4	4.2	4	3	3.2	2.2
5) Public/Society (2)	3.5	2.5	3.5	3.5	3	3	3
6) Other Canadian Universities (1)	1	2	2	2	4	3	3
7) Other Provincial Universities (5)	2.6	3.2	3.4	3.6	3.2	3.2	2.8
8) Potential Students (3)	3.7	2.7	3.3	4.3	3.3	3.7	2.7
9) MPHEC (4)	2.3	3.5	2.5	3	3.3	2.5	4
10) Research Councils (1)	2	1	2	4	3	2	3
11) International Dev. (1)	2	1	4	5	2	4	4
12) Royal Commission (1)	2	3	2	3	1	1	2
13) Economy (2)	2.5	3	2.5	3	3	3.5	2.5
14) Unions (1)	3	2	3	4	3	4	3
15) Technology (1)	3	2	4	3	3	2	2

NOTES:

[1] C/R - Current Risk; F/R - Future Risk; P/O - Potential Opportunities; F/I - Future Impact; T/A - Time Available; P/I - Policy Implementation; I - Information (see Chapter 3, Exhibit 4A).

[2] The Scales were 1-5, 5 representing the most, highest, etc. Arithmetic means are given.

TABLE 1Ø

FORCE RANKINGS

		Questions											
	C/R	F/R		P/O		F/I		T/A		P/I		I	
Rank	Force#[1]	R	F	R	F	R	F	R	F	R	F	R	F
1	7	1	5	1	3	1	1	1	5	1	7	1	5
2	1	2	1	2	4	2	2	1	7	2	1	2	1
3	3	3	4	3	6	2	7	2	4	3	3	3	2
4	6	4	6	3	7	3	3	3	2	3	4	4	4
5	2	5	2	4	2	4	6	4	1	4	2	5	6
6	4	5	7	5	5	5	4	4	3	5	6	5	7
7	5	6	3	6	1	6	5	4	6	6	5	6	3

NOTES:

[1]Forces #: 1 - Provincial Government
2 - Federal Government
3 - Business/Industry
4 - Other Universities
5 - MPHEC
6 - Department of Education
7 - Potential Students

The summary chart below highlights these shifts.

Rank	Table 8
1	Provincial Government Federal Government
2	Business/Industry Other Universities
3	MPHEC
4	Department of Education Potential Students

Rank	Table 10
1	Federal Government Business/Industry Department of Education
2	Provincial Government Potential Students
3	Other Universities
4	MPHEC

It is interesting to note the shift in rankings when compared to Table 8. There have been significant shifts in rank placings between primarily the Department of Education and the Potential Students forces. This can be attributed to the fact that even though fewer administrators acknowledged their significance (Table 8), those that did, felt stronger about their impact.

Table 11 summarizes the Issues Sector Information Matrix (ISIM) linkages between the issues mentioned in Tables 6 and 8, and the information sources the administrators use to monitor them. From this data it can be seen that:

1. the key sectors of information networking are:

   - Universities 32% (of total)
   - Government 24%
   - Academic Assoc. 22%
   - Business/Industry 14%
   - Professional Assoc. 8%

2. the location focus is oriented as

   - national 56% (of total)
   - local 38%
   - foreign 6%

3. the total information source distribution is 31% personal and 69% written, and

4. with the notable exception of the Registrar, all other administrators are fairly equal relative to their total contact linkages.

Table 12 summarizes these linkage data. When compared with the GIN linkages in Table 5, it is interesting to note how the personal sources now dominate all sectors. This is the reverse of the GIN pattern for personal contact and can be attributed to the influence of the two locations (local and foreign) not considered in Table 5. Also, the national information location clearly dominates this linkage orientation with foreign accounting for only 8% of the mean total.

TABLE 11

ISIM LINKAGES

P - Personal
W - Written
L - Local
N - National
F - Foreign

Sector	BUSINESS/INDUSTRY						GOVERNMENT						UNIVERSITIES						ACADEMIC BODIES/ASSOCIATION						PROFESSIONAL BODIES/ASSOCIATION							
Location	L		N		F		L		N		F		L		N		F		L		N		F		L		N		F			
Info Source	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	T	%
Issues																																
President (11 Issues)	5		3				3		3	2			8	4	6	2	3		4	1	8	3			1		3	1	1		61	18%
A-V-P (10)	2	1					2	2	6	5			7	3	8	5			1		4	4					2	1			53	16%
V-P Research (8)	3		4	1	2	2	4	1	6	2	2	1	3		6	1	2	1	2	1	4	2	2	1			2		1		56	17%
V-P Finance (11)	5	2	3	3			3		7	3			7	3	9	1			4		8				2	1	2				63	19%
V-P Resources (7)		2		2			2	2		5			2	2	1	4			4	4	5	6			2	1	3			1	48	14%
Registrar (4)								2		2			3		3				3												13	4%
Planning Officer (8)	3		3				2		6	6	1	1	7		5						2						2	2			40	12%
Source Totals	18	5	13	6	2	2	16	7	28	25	3	2	37	12	38	13	5	1	18	6	31	15	2	1	5	2	14	4	2	1	334	100%
Location Totals	23		19		4		23		53		5		49		51		6		24		46		3		7		18		3		334	100%
Sector Totals	46 (14%)						81 (24%)						106 (32%)						73 (22%)						28 (8%)						334	100%

Linkage Total 334 (100%)

TABLE 12

ISIM LINKAGE ANALYSIS

Sector	% Focus	Location			Info Source	
		L	N	F	Personal	Written
Business/Industry	14%	50%	41%	9%	72%	28%
Government	24%	28%	65%	7%	58%	42%
Universities	32%	46%	48%	6%	75%	25%
Academic Assoc.	22%	33%	63%	4%	70%	30%
Professional Assoc.	8%	25%	64%	11%	70%	30%
Means	20%	36%	56%	8%	69%	31%

Summary

Dalhousie University has identified the need to strategically address its planning priorities. It has a well articulated and documented planning model, and it is possible now for it to develop information gathering and networking strategies based on those issues and forces the senior team collectively feels warrants their attention. This could be extremely beneficial during the environmental analysis phase of the planning process.

With the aforementioned evidence, it would be possible to develop policies with which to ensure that a complete and balanced information network is established, and that the efforts are distributed across the senior team so as to balance each member's contact strengths with their issues and forces perspectives/interests.

Part D - Mount Saint Vincent University

Introduction

Mount Saint Vincent University is a professionally oriented arts and science institution, previously established as Mount Saint Vincent College, 1925, and chartered in 1966.

The university is located in Bedford, a suburb of Halifax, Nova Scotia, with a population base of approximately 265,000, and as of the 1982/83 academic year offers courses to 1,992 full-time and 1,353 part-time students. Of the total enrollment of 3,355, which has tripled since 1966, approximately 5% pursue post-graduate (masters) level degrees. New admissions, currently 800, increase approximately 4% per year, and this increase can be attributed in part to the co-operative education (work/study) programmes offered by the university, and the continuing increase of foreign students who account for 4% of the full-time enrollment.

The university's 190 faculty (38% part-time) are organized into 18 departments under two Deans as follows:

1. Dean of Human and Professional Development

   - Business Administration
   - Public Relations
   - Economics
   - Home Economics
   - Office Administration
   - Psychology
   - Child Studies
   - Sociology/Anthropology
   - Education

2. Dean of Humanities and Sciences

- Biology
- Chemistry
- English
- History
- Mathematics
- Modern Languages
- Philosophy
- Political Studies
- Religious Studies

The total revenue for the university, $19,700,000, is derived mainly from grants (60%), academic fees (20%), research (7%), and ancillary revenue (7%).

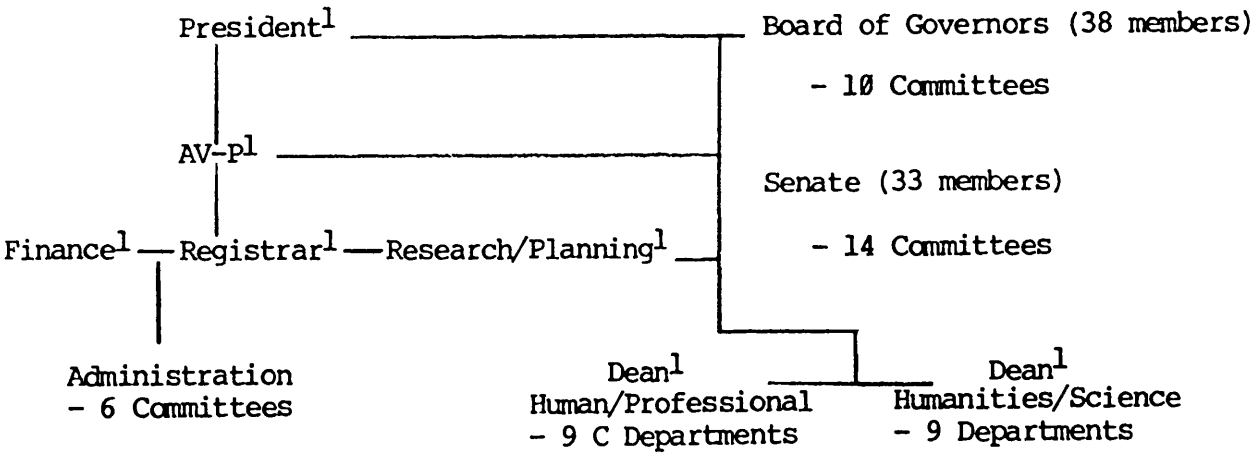
Organization and Planning

Figure 1 presents the central organization structure as confirmed by the President, Dr. Fulton. In relation to the planning for the university, the key committee is the Planning and Budgeting Standing Committee of the President, which is chaired by the President.

Up until the formation of this committee in 1983, the Long Range Planning Committee of the Board, had been the primary instrument for planning--but with primarily an internal budgeting orientation. But with the 'unexpected' government appointment of the Royal Commission on Post Secondary Education, it was felt necessary to attempt to formalize a more strategic approach to planning the universities destiny--especially since the Commission wanted the Nova Scotian universities to address their longer-term plans and directions.

FIGURE 1

ORGANIZATION CHART



NOTES:

[1] Participated in project

While it is too early to measure the effectiveness of the new Committee, a brief description of it follows.

Planning Focus

The purpose of this new committee is:

1. to integrate all university planning and budgeting processes;
2. to prepare, review, and update the university's strategic plan and its components in consultation with appropriate segments of the university;
3. to make recommendations regarding the allocation of the university's resources to programmes and activities consistent with priorities identified in the strategic plan.

The specific functions of the committee can be divided into four phases:

Phase I. To develop a mission statement which involves:

1. identification of basic philosophy and values;
2. assessment of the external environment;
3. assessment of the internal environment (i.e., identifying strengths and weaknesses including human, financial and physical resources);
4. reassessment and periodic review of the university's mission statement in light of the results of steps 1 to 3.

Phase II. To develop a Master Plan comprising the following components:

1. an enrollment plan--this will indicate not only the number of students targeted, but also specify, for example, how many in which area and how many will be part-time and how many full- time, how many mature and how many traditional high school leavers.

2. an admission plan--this component would address issues of admission standards, targets and procedures.

3. human resources development plan--in order to achieve the program, service and enrollment objectives, human resources, faculty, administrative and support staff are necessary. This plan would detail strategies for both program development and individual development.

4. an organizational plan--again to achieve the program and human resource plan, there must be an organizational structure which will facilitate this purpose.

5. a facilities plan--in order to reach these programs, with human resource and organizational goals, appropriate physical resources will be needed. A facilities plan would describe strategies for the expansion of the physical plant and the reallocation of space as needed.

6. a financial plan--finally, all of the preceding plans will cost money. The financial plan will address strategies for the expansion of financial resources and for the reallocation of existing financial resources.

Phase III. To communicate the overall plan to all segments of the university community and to encourage and assist them to achieve the goals of the plan.

Phase IV. To recommend the allocation of resources in a manner consistent with the priorities identified in the strategic plan.

Organizational Analysis

As implied from the new committee's approach to planning for the university, much communication between the internal administrators and the external constituents is required. And from these external communication and information gathering and sharing activities will come the information with which to formalize the university's four-phase planning and budgeting approach. But the critical element in the first phase,

seems to hinge on developing a sense for what external issues and forces the university should integrate into their strategies.

Table 1 summarizes background data on the key members of the senior administrative team interviewed. From this table two points bear considering:

1. the mean age of 48.6 years is relatively young, and the 25 year range in the ages, coupled with a mean university-related work experience of 16.6 years, suggests that the team has ample experience and both new and old perspectives regarding planning, and

2. while there is a very diverse training-related background representation on the team, there is no representation, other than from accounting, from any public administration or management trained members. While this in itself does not guarantee a more effective planning orientation--it might, and should be considered.

Table 2 depicts the administrative team's internal committee networking, demonstrating the potential for information sharing by and through the key administrators. It is interesting to note that the AV-P dominates the networking totals and, along with the President, is over the mean of 14.9 contacts for the team. Overall, though, the contacts are well balanced with the key linkages being between the President and AV-P, and the AV-P and Finance executive. The weak linkages are between Finance and the Planning Officer and Deans. Other than this, the overlap is sufficient and well balanced.

TABLE 1

ADMINISTRATIVE PROFILE

Person	Position	Age	Training[1]	Years In Position	Years At School	Years In University[2]
Dr. Fulton	President	62	English	7	7	12
Dr. Jones	AV-P	42	Education	1	1	14
Mrs. Uhl	Finance[3]	55	Accounting	6	17	17
Dr. Ingalls	Planning and Research[3]	44	Languages	6	7	17
Dr. Clark	Dean - Professional	38	Sociology	5	12	12
Dr. Mullins	Dean - Sciences	62	Chemistry	6	30	34
Ms. Morris	Registrar	37	Arts	4	8	10

NOTES:

[1] for highest degree

[2] work-related

[3] Vice-Presidential level responsibilities

TABLE 2

INTERNAL COMMITTEE NETWORKING

	President	AV-P	Finance	P & R	D-P	D-S	Reg.	T
President	-	6	3	2	2	2	2	17
AV-P	6	-	5	2	3	3	2	21
Finance	3	5	-	1	1	1	2	13
P & R	2	2	1	-	2	2	2	11
D-Prof.	2	3	1	2	-	3	3	14
D-Sci.	2	3	1	2	3	-	3	14
Registrar	2	2	2	2	3	3	-	14
Sub-Totals	17	21	13	11	14	14	14	104

Total 104

Mean 14.9

TABLE 3

SOQ FOCAL POINTS

	Pres.	AV-P	Fin.	P & R	D-P	D-S	Reg.
Internal vs. External Orientation (I,E)	I/E	I	I	I/E	I	I	I
Environment Stable vs. Less Stable (S,L)	L	L	L	L	L	L	L
University Flexible vs. Less Flexible (F,L)	F	F	F	F	F	F	F
Prepared for Future (Yes, No)	N	Y	N	N	Y	N	N
External Information Networks Improved (Y,N)	Y	Y	Y	Y	Y	Y	Y
External Forces Changing (Y,N)	Y	N	Y	Y	Y	N	Y

TABLE 4

SOQ FOCAL POINT ANALYSIS

A) **Organization**

	Lo Flex	**Hi Flex**
Environment		
Hi Stability	1	2
Lo Stability	3	4 All

B) **Information Networking**

		Yes	**No**
Future Preparedness	Yes	1 AV-P D-P	2
	No	3 All others	4

C) **Orientation**

		Internal	**External**
Changing Forces	No	1 AV-P D-S	2
	Yes	3 Fin. D-P Reg.	4 Pres. P & R

NOTES: Cells 1 and 4 are compatible
Cells 2 and 3 are less compatible

Table 3 summarizes key Situational Overview Questionnaire (SOQ) probes relative to the perspectives held by the team members. Table 4 analyzes and groups these responses into three four-celled matrices. In each matrix, cells one and four represent compatible, and cells two and three less compatible, perspectives and situations. Based on the answers given by the administrators (Table 3), they are placed in the corresponding matrix and cell.

In matrix A there is total consensus between the team that the environment is turbulent and that their university is flexible relative to accommodating environmental shifts. In matrix B, while all agree that external networking has improved, only the AV-P and the Dean (Professional) feel the school is well prepared--all others feel they are not well prepared. In matrix C it can be seen that for the exception of the AV-P and Dean (Sciences), all other members concur that the external forces are continuing to change and influence the university. It is interesting to note that only the President and Planning Officer see an external dimension in their duties and responsibilities--all others felt their functions were internally oriented. Overall, the compatibility rating of 52% is fair (11 compatible placings out of 21 possible).

Table 5 summarizes the Government Information Network (GIN) linkage patterns between the team members and those

TABLE 5

GIN LINKAGES

		Pres.		AV-P		Fin.		P & R		D-P		D-S		Reg.		Sub-T		T
		2[1]	3[2]	2	3	2	3	2	3	2	3	2	3	2	3	2	3	
	Federal																	
1)	Agriculture															Ø	Ø	Ø
2)	Consumer/Corporate															Ø	Ø	Ø
3)	National Defense		X				X							X	X	1	3	4
4)	Environment	X	X						X							1	2	3
5)	External Affairs	X	X					X	X						X	2	3	5
6)	Fisheries/Oceans		X													Ø	1	1
7)	Health/Welfare	X	X						X		X				X	1	4	5
8)	Industry	X	X						X							1	2	3
9)	Labour	X	X				X						X			1	3	4
10)	Research Council	X			X		X	X	X		X				X	2	5	7
11)	Statistics Canada	X	X		X		X	X	X		X			X	X	3	6	9
12)	Supply/Services				X				X		X					Ø	3	3
13)	Transport							X								1	Ø	1
14)	Veteran Affairs	X	X	X	X			X			X			X	X	4	4	8
15)	Communications	X	X	X	X			X	X	X	X				X	4	5	9
16)	Energy/Mines															Ø	Ø	Ø
17)	Indian/Northern	X	X				X		X					X	X	2	4	6
18)	Revenue						X								X	Ø	2	2
19)	Employment	X	X	X	X		X	X	X	X			X	X	X	5	6	11
20)	Treasury Board	X	X													1	1	2
21)	Min. of State-Econ.	X	X													1	1	2
22)	Finance															Ø	Ø	Ø
23)	Justice									X	X					1	1	2
24)	Auditor General															Ø	Ø	Ø
25)	Public Works															Ø	Ø	Ø
26)	Regional/Industrial															Ø	Ø	Ø
27)	Min.of State-Sci/Tech	X	X						X							1	2	3
28)	Secretary of State	X	X					X	X	X	X					3	3	6
29)	Social Development								X							Ø	1	1
	Sub-Total	15	16	3	6	Ø	7	8	13	4	8	Ø	2	5	10	35	62	97
	Provincial																	
1)	Agriculture/Mkt															Ø	Ø	Ø
2)	Culture/Recreation	X	X				X								X	1	3	4
3)	Development	X	X	X	X			X	X		X					3	4	7
4)	Education	X	X	X	X	X	X	X	X				X		X	4	6	10
5)	Environment	X	X							X						1	2	3
6)	Labour/Manpower	X	X					X	X		X		X		X	2	5	7
7)	Mines/Energy															Ø	Ø	Ø
8)	Social Services	X	X							X				X	X	3	2	5

Table 5 (Continued)

	Pres.		AV-P		Fin.		P & R		D-P		D-S		Reg.		Sub-T		T
	2[1]	3[2]	2	3	2	3	2	3	2	3	2	3	2	3	2	3	
9) Tourism	X	X					X	X	X	X					3	3	6
10) Treasury Board	X	X				X									1	2	3
Sub-Total	8	8	2	2	1	3	4	4	3	3	Ø	2	1	4	19	26	45
Municipal																	
1) Mayor					X	X									1	1	2
2) Taxation						X									Ø	1	1
3) Continuing Educaton			X												1	Ø	1
Sub-Total	Ø	Ø	1	Ø	1	2	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	2	2	4
Sub-Totals	23	24	6	8	2	12	12	17	7	11	Ø	4	6	14	56	90	146
Totals	47		14		14		29		18		4		20		146		146

NOTES:

[1] 2 represents personal contact

[2] 3 represents primarily written contact

governmental departments they have personal and/or written contact with. These results suggest that:

1. the areas with the most total contact overlap and underlap (relative to the potential of 14 contact points--seven administrators times two contact options) are:

Overlap	Underlap
Federal	
Employment (11)	Indian/Northern (6)
Communications (9)	Secretary of State (6)
Statistics (9)	External Affairs (5)
Veteran Affairs (8)	Health/Welfare (5)
Research (7)	Defense (4)
	(all other 19 Departments)
Provincial	
Education (10)	Tourism (6)
Development (7)	Social Services (5)
Labour (7)	Culture (4)
	(the other 4 Departments)

2) written contact dominates the linkage pattern (62% - 90/146) over personal contacts (38%);

3) the administrators demonstrate a wide range of government contact patterns -

Administrator	% of Total Contact		% Personal: Total	
	Fed	Prov	Fed	Prov
President	32%	36%	48%	50%
AV-P	9%	9%	33%	50%
Finance	7%	9%	-	25%
Planning	22%	18%	38%	50%
D-P	12%	13%	33%	50%
D-S	2%	4%	-	-
Registrar	16%	11%	33%	20%
	100%	100% Mean[1]	37%	41%

[1]mean calculated based on the number of administrators with a score

4. from the chart above, it can be seen that the President and Planning Officer dominate the contact totals (consistent with their external orientation detailed in Table 4), and that the mean personal scores are relatively consistent for both government areas with the administrators favouring personal contact in the provincial arena;

5. the President has the best balanced personal:written networking pattern in both arenas, and

6. both the AV-P and Finance executive have municipal linkages.

Table 6 lists the issues the administrators felt were influencing their university and consequent planning focus. Table 7 lists the major forces felt to be exerting the most pressure/influence on the institution. When these dominant issues and forces are combined, the linkage patterns, as developed in Table 8, emerge.

Table 9 summarizes the External Forces Questionnaire (EFQ) and presents the means of the scaled scores the administrators gave to each of the seven questions asked about each force they identified. When this data is related to the ranked data in Table 8, it becomes possible to re-develop the list of forces in rank order of the administrators' consensus about the urgency and impact of these forces. As developed in Table 10, the purpose here is to identify those forces that are deemed to be most urgent, relative to action required via the planning process. And action should be taken concerning those forces ranking highest in EFQ questions 1, 3, 4 and the lowest in questions

2, 5, and 6. Using these action criteria, and re-tabulating the results from Table 10, the forces in rank order of most importance (and those deserving the most action focus) are:

1. Potential Students ranked just slightly higher than Business/Industry, the Federal Government, and MPHEC which all tied as being the most important (appearing at least four out of eight times in the top 50% of the rankings of questions 1, 3, 4, and 7, and in the bottom 50% of questions 2, 5, and 6);

2. the Provincial Government and the Royal Commission both tied for ranking below this first group mentioned above, and

3. Provincial Universities and the Economy, while also found important, were equally ranked behind the aforementioned forces.

These shifts are detailed in the summary chart below.

Rank	Table 8
1	Provincial Government
2	Business/Industry Potential Students
3	Federal Government
4	Royal Commission Provincial Universities MPHEC
5	Economy

Rank	Table 10
1	Potential Students
2	Business/Industry Federal Government MPHEC
3	Provincial Government Royal Commission
4	Provincial Universities Economy

TABLE 6

MAJOR PLANNING ISSUES

	Issue	Pres.	AV-P	Fin	P & R	D-P	D-S	Reg.	T
1)	Research Funding Priorities	X				X			2
2)	Enrollment Shifts (FT-PT)	X	X	X	X	X	X		6
3)	Developing Planning Information Systems			X	X	X		X	4
4)	Increasing Faculty Productivity					X			1
5)	Provincial Education Policies ($)	X	X	X	X	X	X	X	7
6)	Federal Education Policies ($)	X	X	X	X	X	X	X	7
7)	Governmental Planning Processes	X				X			2
8)	Business/Industry Relationships	X		X		X			3
9)	Technological Education	X		X		X			3
10)	Non-traditional Education (Co-op)	X	X					X	3
11)	Employment Demands	X	X	X	X		X	X	6
12)	University Competition		X				X		2
13)	Physical Plant Maintenance				X		X		2
14)	Fund Raising			X			X		2
15)	Unionism (Fixed Costs)				X		X		2
16)	University Cooperation		X						1
17)	Planning Techniques for Universities	X	X	X	X			X	5
18)	Need for New Faculty		X		X			X	3
19)	Alumni Development			X					1
20)	Computerization--Facilities			X					1
21)	Male/Female Student Shifts	X							1
22)	Increased Intervention by MPHEC	X						X	2
	Totals	12	9	11	9	9	8	8	66

TABLE 7

MAJOR EXTERNAL FORCES

		Pres.	AV-P	Fin.	P & R	D-P	D-S	Reg.	T
1)	MPHEC		X	X	X	X			4
2)	Local Universities	X	X						2
3)	Business/Industry		X	X	X	X	X	X	6
4)	Provincial Government	X	X	X	X	X	X	X	7
5)	AAU		X		X				2
6)	AUCC		X		X				2
7)	Federal Government	X	X	X		X		X	5
8)	Royal Commission			X	X	X		X	4
9)	Potential Students	X		X	X	X	X	X	6
1Ø)	Other Provincial Universities			X	X	X	X		4
11)	Technology			X				X	2
12)	Research Councils	X			X				2
13)	Economy	X					X	X	3
14)	Social Forces	X					X		2
	Totals	7	7	8	9	7	6	7	51

TABLE 8

ISSUE/FORCE PATTERNS

Issues (times mentioned)	**Forces (times mentioned)**
1) Provincial Ed. Policies (7)	1) Provincial Government (8)
2) Federal Ed. Policies (7)	2) Business/Industry (6)
3) Enrollment Shifts (6)	3) Potential Students (6)
4) Employment Demands (6)	4) Federal Government (5)
5) Planning Tech. for Univ. (5)	5) MPHEC (4)
6) Info. Planning Systems (4)	6) Royal Commission (4)
7) Business/Industry Relations (3)	7) Provincial Univ. (4)
8) Technological Ed. (3)	8) Economy (3)
9) Non-traditional Ed. (3)	
10) Need for New Faculty (3)	

Linkage Patterns

Issue	**Force # Linkage**
1	1, 3, 4, 5, 6, 7, 8
2	3, 5, 6, 8
3	2, 8
4	2, 3, 4, 8
5	5, 6, 7
6	2, 5, 6, 7
7	2, 8
8	1, 2, 6
9	1, 2, 3, 5, 6
10	1, 3, 5, 6

TABLE 9

EFQ SCALING SUMMARIES

Forces (times mentioned)	Questions[1] C/R	F/R	P/O	F/I	T/A	P/I	I
1) MPHEC (4)	2.3[2]	1.8	2.3	3.5	3.3	2	2.8
2) Local Universities (2)	2	2	2	4.5	4	1.5	2.5
3) Business/Industry (6)	2.8	2	2.8	3.7	3.3	3.2	2.5
4) Provincial Government (7)	3.1	2.9	2	4	3.1	3.4	2.9
5) AAU (2)	1.5	1.5	1.5	4	4	1.5	2
6) AUCC (2)	1.5	1.5	1.5	3	4	1.5	2
7) Federal Government (5)	2.8	2.2	2.6	3.8	3	3	2.6
8) Royal Commission (4)	3.5	2.5	2.3	2.3	1	2.5	2.8
9) Potential Students (6)	2.3	1.8	3.3	4	3.2	2.2	3.5
10) Other Provincial Universities (4)	2.5	2.3	2.3	3.5	3.5	2.8	3.5
11) Technology (2)	3	1.5	3	4.5	3	2.5	2.5
12) Research Councils (2)	3.5	3.5	3.5	3.5	2.5	3.5	3
13) Economy (3)	3	2.3	2.3	3.3	2.3	3.7	2.3
14) Social Forces (2)	1	1.5	4	4	4	5	6

NOTES:

[1] C/R - Current Risk; F/R - Future Risk, P/O - Potential Opportunities; F/I - Future Impact; T/A - Time Available; P/I - Policy Implementation; I - Information (see Chapter 3, Exhibit 4A)

[2] The scales were from 1-5, 5 representing the most risk, chance, importance, time, difficulty, etc., and 1 representing the least. The arithmetic mean of the total score is used (rounded to the nearest tenth) due to the small population size.

TABLE 1Ø

FORCE RANKINGS

C/R		F/R		P/O		F/I		T/A		P/I		I	
Rank	**Force#**[1]	**R**	**F**	**R**	**F**	**R**	**F**	**R**	**F**	**R**	**F**	**R**	**F**
1	6	1	1	1	3	1	1	1	7	1	8	1	3
2	1	2	6	2	2	1	3	2	2	2	1	1	7
3	8	3	7	3	4	2	4	2	5	3	2	2	1
4	2	3	8	4	5	3	2	3	3	4	4	3	5
4	4	4	4	4	6	4	5	4	1	5	7	3	6
5	7	5	2	4	7	4	7	5	4	6	6	4	4
6	3	6	3	4	8	5	8	6	8	7	3	5	2
6	5	6	5	5	1	6	6	7	6	8	5	6	8

NOTES:

[1] Force#

1 - Provincial Government
2 - Business/Industry
3 - Potential Students
4 - Federal Government
5 - MPHEC
6 - Royal Commission
7 - Provincial Universities
8 - Economy

It is interesting to note the shift in rankings when compared to those in Table 8. The most significant change has been between the Provincial Government and Potential Students forces.

In Table 8, Provincial Government was ranked first. and now it has been displaced (to a third ranking) by Potential Students (ranked second in Table 8) which is now ranked first. This can be attributed to the fact that even though more administrators mentioned the Provincial Government was an influencing force, when quantifying these opinions. they obviously felt that the Potential Students. Business/ Industry. Federal Government and MPHEC forces were more important and urgent.

Table 11 summarizes the Issues Sector Information Matrix (ISIM) linkages between the issues mentioned in Tables 6 and 8, and the information sources the administrators use to monitor them. From this data it can be seen that:

1. the key sectors of information networking are:

   - Universities 36% (of total)
   - Academic Assoc. 33%
   - Government 19%
   - Business/Industry 6%
   - Professional Assoc. 6%

2. the location focus is oriented as:

   - national 47% (of total)
   - local 45%
   - foreign 8%

3. the total information source distribution is 58% personal and 42% written. and

TABLE 11

ISIM LINKAGES

P - Personal
W - Written
L - Local
N - National
F - Foreign

Sector	BUSINESS/INDUSTRY						GOVERNMENT						UNIVERSITIES						ACADEMIC BODIES/ASSOCIATION						PROFESSIONAL BODIES/ASSOCIATION							
Location	L		N		F		L		N		F		L		N		F		L		N		F		L		N		F			
Info Source	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	P	W	T	%
Issues																																
President (12 Issues)	4		4				7	4	8	6	1	1	10	7	10	6	5	5	2	2	11	8	9	6			3		2		121	32%
A-V-P (9)	1	1						2		4			7	6	1	2			3	2	3	5					1	1			39	10%
Finance (11)	4	4					3	3	3	3			8	8	2	2					5	5			1	1					52	14%
P & R (9)	2						3	3	2	6			7	3	4	2	1		10	9	9	9		1	1		3				75	20%
Dean - P (9)	2						1	3	1	4			8	5	5	1			1	1	6	7			1		3		1		50	13%
Dean - S (8)										1			7	2	1						2				2						15	4%
Registrar (7)	1						1	1		3			5	1	5				1		6	2					1	1			28	7%
Source Totals	14	5	4				15	16	14	27	1	1	52	32	28	13	6	5	17	14	42	36	9	7	5	1	11	2	3		380	100%
Location Totals	19		4				31		41		2		84		42		11		31		78		16		6		13		3		380	100%
Sector Totals	23 (6%)						74 (19%)						136 (36%)						125 (33%)						22 (6%)						380	100%
Linkage Total	380 (100%)																															

4. the President. followed by the Planning Officer, dominate the total contact linkages, followed by Finance, the AV-P and the Registrar. The Dean of Science is noticeably weak in the contact linkage.

Table 12 summarizes these linkage data. When compared with the GIN linkages in Table 5, the findings are consistent for the Government sector where. in both tables, written information sources dominate. But in all others, personal sources account for the major information source. As well. there is a representative balance between Local and National information locations with Foreign accounting for only 7% of the mean total.

TABLE 12

ISIM LINKAGE ANALYSIS

Sector	% Focus	Location			Info Source	
		L	N	F	Personal	Written
Business/Industry	6%	83%	17%	-	78%	22%
Government	19%	42%	55%	3%	41%	59%
Universities	36%	62%	30%	8%	63%	37%
Academic Assoc.	33%	25%	62%	13%	54%	46%
Professional Assoc.	6%	27%	59%	14%	87%	13%
Means	20%	48%	45%	7%	65%	35%

Summary

Mount Saint Vincent has identified a need to both develop and utilize a strategic planning process. It is initiating a process with which to fully document the variables and steps that need to be considered within the planning framework. Consequently, it could now be possible for the administrators to develop information gathering networking strategies based on those issues and forces the senior team collectively feels warrants their attention. This would be especially crucial and helpful for the environmental analysis phase of the strategic planning.

With the aforementioned evidence, it would be possible to develop policies with which to ensure that a complete and balanced information network is established, and that the efforts are distributed across the administrative team so as to balance each member's contact strengths with their respective issues and forces perspectives/interests.

Part E - Summary Comparisons

From the analyses developed throughout this chapter. it is now possible to compare these sample universities relative to any convergence and/or divergence of the data.

In regards to the strategic planning processes within the universities, it is interesting to note how they all have implemented their own planning initiatives and are all at different stages of both formalizing and integrating strategic planning into their respective committee hierarchies. The rank order (highest to lowest) of formalization and integration can be deduced from the evidence summarized in Table 1. From this data. Dalhousie University is ranked ahead of Bath. MSVU. and lastly. Birmingham.

TABLE 1

PLANNING DEVELOPMENT RANKINGS[1]

Criteria	**Universities**			
	Bath	**Birmingham**	**Dalhousie**	**MSVU**
Planning Phase	2	3	1	2
Committee Hierarchies	1	2	1	1
Administrative Processes	2	3	1	3
Documentation	2	4	1	3
Model Orientation	3	3	1	2
Mean	2	3	1	4

NOTE: [1] These rankings are based on the evidence gathered throughout this project and do not reflect on any 'effectiveness-of-the-planning systems' variables.

While both Bath and MSVU are well on their way to developing a well integrated and more formalized planning process, Birmingham still has much work to do in this area--which could be a function of a need for a Planning Officer which all other three universities utilize.

From the perspective of potential planning related synergies, resulting from the interaction of the age, years of experience, and the formal management training variables for the teams' members, Table 2 summarizes the results.

TABLE 2

PLANNING SYNERGY VARIABLES

Variables	**Universities**				
	Bath	**Birmingham**	**Dalhousie**	**MSVU**	**Mean**
Mean Age (years)	55	54	47	49	51
Mean Experience (yrs.)	24	25	17	17	21
% Management-Related Trained Administrators on Team	40%	40%	71%	14%	41%

From this table, it is interesting to note the ratings from the Dalhousie sample with the lowest combined mean totals and highest number of management-related trained administrators on the team. The correlation between these data and Dalhousie's high ranking in Table 1 suggests that there may be some relation between these factors that could impact on the dynamics of a university's planning system.

But little can be said of the effectiveness of the system. yet.

Table 3 highlights some of committee networking data. The significance of these data are that. again, Birmingham exceeds the linkage means suggesting the administrators may by 'over' linked for the first two variables in the table. Bath seems 'under' linked, relative to the mean. for the Planning Officer variable. In all cases. the Planning Officer could be utilized more.

TABLE 3

COMMITTEE NETWORKING COMPARISONS

Variables	**Universities**				
	Bath	**Birmingham**	**Dalhousie**	**MSVU**	**Mean**
Mean Linkages	9.6	21.6	11.4	14.9	14.4
V-C to S-P-V-C Links (President to AV-P)	5	13	6	6	7.5
Mean Planning Officer Links[1]	.8	--	1.2	1.7	1.2[2]

NOTES:

[1] Links with other team members

[2] Based on the three universities with Planning Officers

From the focal analyses tables (Tables 4 for each university's analysis sections), it is possible to compare the administrator's perspectives for each university. Table

4, below, summarizes these data from which it can be seen that there is:

1. in matrix A

   a) a 79% concensus (19 out of the 24 administrators) concerning the turbulence (stability) of and in their environments;

   b) almost a split decision, between whether or not their organizations are more or less flexible relative to adopting to changes, in the favour of lo flexibility (58% concensus), and

   c) almost an equal split between concensus of the British and Canadian administrators' opinions regarding flexibility

      - 60% of the British responded lo flexibility

      - 57% of the Canadians responded lo flexibility

   d) other than for Birmingham, no concensus between the chief administrative officer and the second in command;

   e) in relation to compatibility measures (cells 1 and 4 being the more compatible placings), the rank orders are--Birmingham (60%), MSVU (57%), Bath (40%), Dalhousie (29%) and Britain (50%), Canada (43%);

2. in matrix B

   a) a 96% concensus that their external information networks were, and had, improved;

   b) a 71% concensus that their universities were still not as prepared as they could be;

   c) an almost perfect balance between British and Canadian concensus regarding the need to be more prepared (70% of the British, 71% of the Canadians);

   d) only MSVU does not have a concensus between their two chief administrative officers;

   e) relative to compatibility measures, only Birmingham does not have any compatible placings

TABLE 4

SOQ FOCAL POINT ANALYSIS

A) **Organization**

Environment	**Lo Flex**	**Hi Flex**
Hi Stability	1 B3, 4 D6	2 B1 M2
Lo Stability	3 B4, 5 B1, 2 D1,2,3,4,5,7	4 B2,3 B5 M1,3,4,5,6,7

B) **Information Networking**

Future Preparedness	**Yes**	**No**
Yes	1 B1,2,4 D3,4 M2,4	2
	3 B3,5 B1,2,3,4,5 D1,2,5,7 M1,3,5,6,7	4 D6

C) **Orientation**

Changing Forces	**Internal**	**External**
No	1 D6 M2,5	2
Yes	3 B3 B5 D2,5 M3,4,6	4 B1,2,4,5 B1,2,4 B3 D1,3,4,7 M1,7

Table 4 (Continued)

NOTES:

Bath

B1 - V-C
B2 - S-P-V-C
B3 - P-V-C
B4 - Secretary & Registrar
B5 - Planning Officer

Birmingham

b1 - V-C
b2 - S-P-V-C
b3 - P-V-C
b4 - Secretary
b5 - Registrar

Dalhousie

D1 - President
D2 - AV-P
D3 - V-P Research
D4 - V-P Finance
D5 - V-P Resources
D6 - Registrar
D7 - Planning Officer

MSVU

M1 - President
M2 - AV-P
M3 - Finance
M4 - Dean (Professional)
M5 - Dean (Sciences)
M6 - Registrar
M7 - Planning Officer

while, in rank order, there is Bath (60%), Dalhousie (43%), MSVU (29%), Britain (30%), and Canada (36%)--this suggests that while almost all felt they had information networks, there was over a 2:1 negative correlation between having a network and being prepared (16 of the 23 who felt their networks had improved, also felt they still were not as prepared as they could be, and this was almost equally split between British and Canadian respondents);

3. in matrix C

   a) an 88% concensus that the external forces were continuing to change;

   b) a 58% concensus that their administrative duties and responsibilities had an external orientation to them;

   c) about a 2:1 ratio in favour of the British administrators who felt there was an external component to their function (80% British, 43% Canadian);

   d) only Bath and Birmingham had a concensus between their two senior administrators;

   e) relative to compatibility measures, both Bath and Birmingham had the most compatible placings (80%), followed by Dalhousie (71%), MSVU (57%), and Britain (80%) exceeded Canada (64%);

4. from the compatibility summaries developed in Table 5, it can be seen that:

   a) the British administrators share relatively more compatible perspectives than do their Canadian counterparts, and

   b) Bath is clearly the most compatible, followed by the other three universities equally.

TABLE 5

COMPATIBILITY SUMMARIES

	Bath	Birmingham	Britain	Dalhousie	MSVU	Canada
Matrix A	40%	60%	50%	29%	57%	43%
B	60%	--	30%	43%	29%	36%
C	80%	80%	80%	71%	57%	64%
Means	60%	47%	53%	48%	48%	48%

TABLE 6

GOVERNMENTAL FOCUS

	Rank	Bath	Birmingham	Dalhousie	MSVU
National	1	Education	Education	Industry	Employment
	2	Industry Trade Overseas Dev. Research Councils	Industry Trade	Employment	Communications Statistics
	3	Overseas Dev. Research Councils	Defence Foreign Office Home Office	External Affairs Statistics	Veteran Affairs
	4	Defence		Research	Research
Provincial	1	N/A	N/A	Education	Education
	2			Development	Development Labour

Table 6 summarizes those governmental departments receiving the most attention (overlap) by each of the respective universities' administrative teams. From these summaries, it can be seen that:

1. Education ranked highest in Britain and highest at the Canadian Provincial levels;
2. with the exception of MSVU, Industry is also ranked high;
3. Employment is targeted very high in both Canadian groups, and
4. there are no other dominant patterns suggesting that all have their respective particular interests.

Table 7 summarizes each administrators' government contacts relative to his team's totals and the amount of total personal contact he has with those departments being contacted. From these summary data it can be seen that:

1. the chief administrative officers have the highest amount of combined total and personal contacts, and the British chiefs are marginally ahead of the Canadians on this dimension;
2. the British group, as a whole, rely more on personal contacts;
3. the British S-P-V-Cs contribute more, than do the Canadian AV-Ps, to both total and personal contacts;
4. Registrars, as a group, are the weakest linkage sources, and
5. the Canadian Planning Officers are more connected than their British counterpart.

TABLE 7

INFORMATION CONTACT SUMMARIES

Administrator	Britain						Canada							
	Bath		Birmingham		Br. Mean		Dalhousie[1]		MSVU[1]		Cdn. Mean		Mean	
	% Total	% Personal	%T	%P	%T	%P	%T	%P	%T	%P	%T	%P	%T	%P
Vice-Chancellor (President)	22	70	37	33	30	52	13	45	34	49	24	47	27	49
Senior-Pro-V-C (AV-P)	34	58	12	20	23	29	7	10	9	42	8	26	16	33
1 Pro-V-C	19	40	16	31	18	36	39[2]	46	8[3]	13	24	30	21	33
2							18[3]	29	12[5]	42	15	36	15	36
3							8[4]	7	3[6]	---	6	4	6	4
Secretary	17	31	22	39	20	35							20	35
Registrar			9	25	9	25	1	---	14	27	8	14	8	14
Planning Officer	8	42			8	42	15	69	20	44			18	52
Means[7]	20%	48%	20%	30%	20%[8]	39%[8]	14%	29%	14%	31%	14%[8]	30%[8]		

NOTES:

1 - Combined Federal and Provincial averages
2 - Research
3 - Finance
4 - Resources
5 - Dean - Professional
6 - Dean - Science
7 - Total Team Averaging
8 - Mean Averages

Table 8 summarizes the issues collectively mentioned as being most important by the universities' administrative teams. From this summary it can be seen that:

1. as would be expected, government related education issues were all found in the top rankings;
2. research related issues were ranked higher by the British teams, and the Canadian teams ranked demographic related issues higher;
3. university management techniques was ranked by all except Bath which ranked and clustered all its major issues highest;
4. faculty related issues were ranked by all except Birmingham, and
5. all teams ranked business/industry related issues.

Given these patterns, it is interesting to review and compare the forces summaries detailed in Table 9. From these rankings it can be seen that:

1. business/industry forces had the highest aggregate ranking just ahead of government related forces;
2. the higher education coordinating bodies were ranked by all, though no pattern of preference was noted;
3. research councils were only ranked by the British teams, consistent with their issues rankings, and
4. potential students were ranked by all except Birmingham.

Table 10 summarizes the ISIM data from each team and suggests that:

1. the administrators rely on other university contacts more than any other sector source, consistently across the teams and countries;

TABLE 8

ISSUES SUMMARY

Rank	Bath	Birmingham	Dalhousie	MSVU
1	R & D Opportunities University Competition Government Intervention Science/Tech. Trends	Alternative Funding Government Intervention	Provincial Funding	Provincial Ed. Polities Federal Ed. Policies
2	R & D Excellence Government Funding Policies Increasing Faculty Output Business/Industry Relations Research Funding Priorities Employment Patterns	Government Funding University Mgt. Techniques Research Funding	Federal Funding Computerization Student Mix	Enrollment Shifts Employment Demands
3		Business/Industry Relationships University Competition Computerization	University Mgt. Techniques University Cooperation Research Council Priorities University Info. Sharing Role of MPHEC Faculty Quality Demographic Changes	University Mgt. Techniques
4				Information Planning Systems
5				Business/Industry Relationships Technological Education Non-Traditional Education Need for New Faculty

TABLE 9

FORCES SUMMARY

Rank	Bath	Birmingham	Dalhousie	MSVU
1	U.G.C. D.E.S.	Research Councils	Federal Government Business/Industry Dept. of Education	Potential Students
2	Business/Industry Technology	Business/Industry D.E.S.	Provincial Government Potential Students	Business/Industry Federal Government M.P.H.E.C.
3	Potential Students	City Council	Other Universities	Provincial Government Royal Commission
4	C.V.C.P. Research Councils	U.G.C. Other Universities Independent Foundations Foreign Universities	M.P.H.E.C.	Other Universities Economy
5		C.V.C.P.		
6		A.U.T.		

TABLE 10

INFORMATION FOCUS SUMMARY

	Britain			Canada			
Sector	Bath	Birmingham	Br. Mean	Dalhousie	MSVU	Cdn. Mean	Mean
Business/Industry	15%	17%	16%	14%	6%	10%	13%
Government	23%	19%	21%	24%	19%	22%	21%
Universities	36%	31%	33%	32%	36%	34%	33%
Academic Assoc.	19%	18%	18%	22%	33%	28%	23%
Professional Assoc.	13%	15%	14%	8%	6%	7%	10%
Location							
Local	29%	26%	28%	36%	48%	42%	33%
National	50%	54%	56%	56%	45%	50%	53%
Foreign	21%	20%	21%	8%	7%	8%	14%
Source							
Personal	51%	44%	48%	70%	65%	68%	58%
Written	49%	56%	52%	30%	35%	32%	42%

2. there is almost equal reliance between government and academic association sectors, and between business/industry and professional association sectors;

3. the sector means for the two countries are almost parallel;

4. the location means for both countries are almost parallel with both having a dominant national orientation;

5. while the Canadian teams have negligible foreign scores, Britain's foreign component is almost perfectly balanced with its local counterpart, and

6. while the British teams are almost balanced, relative to a 50/50 personal:written source orientation, the Canadian teams are personal dominant in more than a 2:1 ratio over written sources.

Conclusion

There is noticeable convergence in almost all the data that has been reviewed. What is clear is that each team has its own peculiar orientation and strengths and weaknesses, but that all the teams' orientations are relatively complimentary and consistent.

The final chapter will now summarize the implications of these findings.

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CHAPTER 5

PROJECT CONCLUSIONS

Index

"Men are wise in proportion, not to their experience, but to their capacity for experience."

George Bernard Shaw
'Maxims for Revolutionists'

Prologue

At the outset of this exploratory project, specific objectives were developed which would chart the course of the investigation. Within the review of the literature chapter, evidence was put forth which suggested that the aforementioned objectives were both viable and valid based on the apparent lack of evidence dealing with strategic planning, environmental scanning, information systems and networks for the university sector. This, coupled with increasing external pressures and an internal awareness that strategic planning methodologies could help counter-balance these pressures, provided more impetus for the project.

The research methodologies section detailed both the rationale for, and the methodology behind, this exploratory cross national comparative project--while simultaneously providing further support to the merits of such an undertaking.

In the research analysis portion of this thesis, an overview comparison of both the British and Canadian higher education systems preceded the actual analysis and comparison of the sample target universities of Bath, Birmingham, Dalhousie, and Mount Saint Vincent University, and much convergence

and paralleling of data was found both within and across the country targets.

This chapter will now summarize the project relative to the stated objectives and develop suggestions for further empirical research.

Summary

The three primary objectives for this project were:

a) to expand (and utilize) the empirical research base relating to strategic planning tools for identifying and organization's environmental forces and issues;

b) to provide a means with which to transfer organization-environment concepts to senior university managers, and

c) to identify areas of strengths and weaknesses relative to the senior university managers' external information networks used to monitor the external forces and issues.

In regards to these goals, the following can be said:

1. the instruments developed, and techniques utilized, throughout this project, were based on the materials reviewed at the outset of this dissertation and worked effectively in helping to identify both an administrator's and an administrative team's opinions regarding those forces and issues they felt impacted on their university;

2. as was mentioned in Chapter 3 (Research Methodology), each school has asked to see the results of the analysis for each respective university team and, consequently, this should fulfill the second primary objective by providing the administrative teams a means with which to transfer the inherent organization-environment concepts, and

3. through the detail in Chapter 4 (Research Analysis) the areas of both convergence and divergence were highlighted relative to the administrators' networks.

Overall, the three primary objectives have been met.

In relation to the eight subsidiary questions posed at the beginning of this project, they referred to what extent senior university administrators, in Britain and Canada, shared similar opinions regarding:

a) the environmental forces and issues that affect universities;

b) the environmental forces and issues that are more critical for their respective universities;

c) the adequacy, sources and types of information available concerning these forces and issues;

d) the level of flexibility that their universities have to respond to environmental forces and issues;

e) the level of stability of their universities' environments;

f) the extent of interaction with governmental forces;

g) the extent of external versus internal orientation of their management duties, and

h) the level of risk associated with the universities' present strategies relative to the environmental forces and issues.

From the evidence developed in this project, the following can now be said:

1. in respect to the first two subsidiary questions, from Tables 6, 8, and 9 (Chapter 4, Part E) there is convergence related to -

    i) the Education, Industry, and Employment government departments within and across the two countries (Table 6),

ii) the government related education, research related, and management techniques issues (Table 8),

iii) the business/industry and higher education coordinating bodies forces (Table 9);

2. in respect to the third subsidiary question, from Tables 7 and 10 (Chapter 4, Part E), there was no indication concerning inadequate information other than the balance proportions between personal versus written types (which seems to be an individual preference), but there was convergence relative to -

i) both countries relying significantly on both written and personal information sources, with Britain relying more equally on both types (Tables 7 and 10),

ii) both countries relied most heavily on the National location base for their information with Canada relying almost as heavily on its Provincial location base due to the governmental infrastructure in Canada (Chapter 4, Introduction),

iii) both countries had almost perfectly parallel sector balances relative to their information contacts in business/industry, government, universities, academic associations, and professional associations (Table 10);

3. in respect to the fourth and fifth questions, it could be seen in Table 4 (Chapter 4, Part E) that there was convergence, relative to indecision on the total team scores, as to whether or not their respective universities were in fact flexible enough to respond to external pressures and capitalize on initiatives--but there was strong agreement that the environment was characterized as having lo stability or being very turbulent;

4. in respect to the sixth question, Table 6 (Chapter 4, Part E) shows the convergence relative to all teams having their own GIN patterns and peculiarities but with marked similarities as to those departments receiving the most attention;

5. in respect to the seventh question, Table 4, again, indicates that there is consensus, particularly within the British groups, that their administrative duties and responsibilities have an external orientation to them, and

6. from the EFQ data (Chapter 4, Parts A-D) and Tables 8 and 9 (Part E)--which are the resultant rankings incorporating risk scorings utilized in the EFQ, it was seen that risk was associated with the external forces and issues mentioned by the administrators, and this risk helped determine the resultant rankings (see #1 above).

Overall, the consensus and convergence patterns were highlighted via the summary compatibility scorings utilized in Table 5 (Chapter 4, Part E) which showed remarkable compatibility totals.

The descriptive propositions that were also posited, resulting from the aforementioned eight subsidiary questions, were:

a) environmental forces and issues affect universities in Britain and Canada;

b) certain environmental forces and issues will be more critical to the respective universities in Britain and Canada;

c) types and sources of information concerning these environmental forces and issues are adequate;

d) universities in Britain and Canada are flexible in relation to responding to environmental issues and forces;

e) the universities' environments in Britain and Canada are not stable;

f) senior university administrators in Britain and Canada have a high level of interaction with their respective governments' departments;

g) senior university managers, in Britain and Canada, are primarily internal (versus external) in relation to their duties;

h) senior university managers, within the same university, share a consensus relative to the forces and issues influencing their universities and the level of risk associated with their universities' present policies in dealing with these forces and issues.

From the evidence collected and analyzed throughout this project, and taking into consideration both the individual universities' and countries' differences as noted in Chapter 4, it can be generally said that:

1. there is agreement with the first, second, fifth, sixth, and eighth propositions;

2. there is disagreement with the fourth and sixth propositions, and

3. there were no indications given to the 'inadequacy' issue in the third proposition, even though the balance of attention (overlap versus underlap) given by the administrators to the different sources and sectors of information could be better aligned (Chapter 4, Parts A-D).

Recommendations

As with any management undertaking, it behooves the researcher to attempt to make constructive recommendations that could ultimately benefit those involved in the project. To this end, this writer has developed several options that, once implemented, should strengthen both the information systems and the strategic planning processes of the universities in question. These recommendations will now be reviewed.

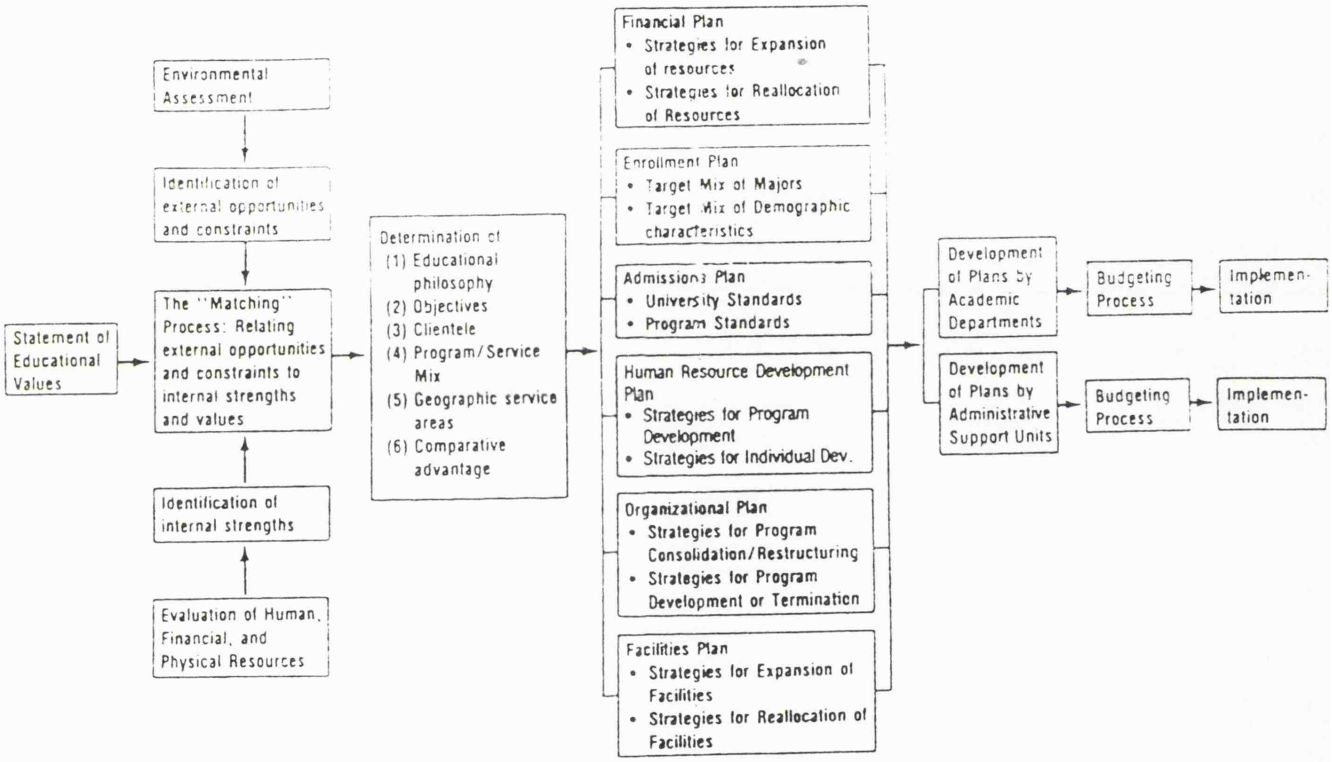
1. The universities should continue to formalize their strategic planning processes by adopting and following a model similar to the one in Figure 1, adapted from Horner[1] (and currently being considered by Mount Saint Vincent University[2]). This should be coordinated through the committees formally charged with this task and, they should incorporate increased involvement from the Planning Officer.

2. Relative to the environmental assessment component of the model, each administrative group should, with the evidence and techniques developed in this project, develop a formal information system so that each team member is aware of the contacts, information sources and interests/concerns of the other members--this will minimize overlap while maximizing effective utilization of their time and efforts.

3. Relative to the decision areas found in the model (educational philosophy, objectives, clinetele, program/service mix, geographic service areas, and comparative advantage), each team should collectively 'walk through' an Environmental Screening Matrix (ESM) that would force them, as a team, to develop a clearer focus on their optimum course of action. Table 1 presents a hypothetical ESM using the common environmental forces developed in this project. This stage is important for it is via this consensus - forcing planning that a group can counter and address the constraints of:

FIGURE 1

A MODEL OF STRATEGIC PLANNING FOR A UNIVERSITY



a) lack of resources for extensive environmental monitoring,

b) information being dispersed among the various team members,

c) lack of a framework for categorizing the environmental constituents,

d) limits to the amount of work and information one or two administrators can manage, and

e) uneven ability to affect the various, and the more urgent, environmental elements.

4. From this analysis, each team should be able to priorize the strategic decisions such as:

TABLE 1

ENVIRONMENTAL SCREENING MATRIX[1]

	Strategic Decisions Areas				
External Forces	**Values**	**Goals**	**Clients**	**Mix**	**Area Advantage**
Economic					
Social					
Technological					
Political/Legal					
Demographic					
Competitive					

NOTE:

[1] For each external force identified, enter either an O (for opportunity) or C (for constraint) under the strategic decision area(s) likely to be affected. Those forces identified as having major impact can then be subjected to further analysis.

---

a) Basic Philosophy and Values

- level of program offerings,
- mode of ownership and control,
- fundamental obligations and principles,
- principles and style of governance,
- responsibilities to constituencies;

b) Goals and Objectives

- student development (intellectual, physical, moral),
- advancement of knowledge,
- cultural and clinical services,
- life-long learning,
- survival/expansion/consolidation,
- institutional development (human, financial, image);

c) Clinetele/Customer Mix

- student targets (quality, origins, majors, etc.),
- relative emphasis on target groups,
- target groups for development,
- demographic characteristics,
- other clientele (foundations, employers, donors, alumni);

d) Product/Program/Service Mix

- program offerings,
- program priorities,
- cost/quality relationships,

- new program development,
- program size;

e) Geographic Service Area

- location of programs, clientele,
- targets for development,
- educational delivery systems,
- dimensions of service (National, Regional, Local);

f) Comparative Advantage

- quality of faculty, students, programs,
- location,
- facilities,
- reputation,
- extracurricular options.

5. Since all universities ranked both business/industry forces and issues, if these university teams have targeted, or are in the process of developing, industry contacts, it is recommended that they also develop a more focused action plan that incorporates this industry orientation into its structure, such as that suggested by Maxwell and Currie[3]-

a) define the mission. Example: develop areas of excellence in an environment of constrained resources;

b) select areas of excellence

- identify areas of strength and areas of weakness,
- assess relevant national and local needs,
- select areas of excellence and areas of curtailment;

c) Build managerial flexibility

- centralize control over expenditures,
- build incentive systems that reward flexibility,
- mobilize support for building excellence,
- develop programs to facilitate curtailment (early retirement. ceiling in enrollments in specific areas);

d) Build areas of specialization

- identify potential corporate support and open dialogue with key companies,
- establish a presence in the areas (host a conference, start guest lectures),
- integrate relevant disciplines into a centre/ institute,
- purchase/borrow/lease equipment,
- allocate/raise funds for new appointments and facilities,
- create incentives to attract good graduate students,
- focus grants and research contracts in specialized areas,;

e) Build relationships with key corporations relevant to areas of excellence

- campus visits, guest lectures to open dialogue between faculty and corporate staff,
- explain the long term plan and solicit support,
- offer affiliation, regular contact, access to research results,
- encourage corporate contributions to courses;

f) Build relationships with local industry

- campus visits,
- identify corporate strengths and weaknesses:
  - tap the strengths as input,
  - offer courses, lectures, technology counselling to offset the weaknesses.

6. As a control measure relative to the planning development stage of the model, it is recommended that the teams adhere to the following suggestions adapted from the work of Kirschling and Huckfeldt[4] and based on their extensive experience in implementing strategic plans in universities -

a) planning projections should build on the known facts and not obscure the unknown providing a deluge of questionable information or information overflow;

b) planning projections should make the teams' experts' knowledge available to the senior decision makers;

c) planning projections of unexpected events should be fully examined to ensure they are not aberrations of the method used to develop the projection;

d) planning projections should concentrate on the major issues of importance to the administrators;

e) planning projections should contain the assumptions on which the projections are based with a caution to pay as much attention to the assumptions as to the final forecast;

f) developing the projections will naturally bring together people with a diverse set of backgrounds, and this expanded dialogue may end with the various parties concluding the others do not understand unless the project coordinator actively tries to eliminate such communication problems;

g) the administrative team and the planner developing the projections should make a specific list of the realistic objectives to be fulfilled by the future projections. The list of objectives

might include selections from the following, as well as others:

- to satisfy internal political requirements,
- to satisfy external political requirements,
- to develop better data for improved day-to-day management,
- to develop better data for responding to external queries,
- to develop the capability of forecasting significant changes that are likely to occur (decision makers can then respond with new policies to select the best course of action for their institution in the long run),
- to document a possible future for the purpose of publishing journal articles with which to share their experiences,
- to bring together diverse components of the institution, to work together on a nonthreatening effort, thus, promoting improved relationships within the institution, and
- to research and improve the planning methodology;

h) The planner developing the projections must select a methodology to use in developing projections and in making this selection he should consider a number of different criteria for comparing the possible methods, including:

- the support of key decision makers for a particular method,
- the cost of acquisition of the methodology,
- the cost of using the methodology to develop the future plans, and
- the technical complexity or ease of communication of the methodology.

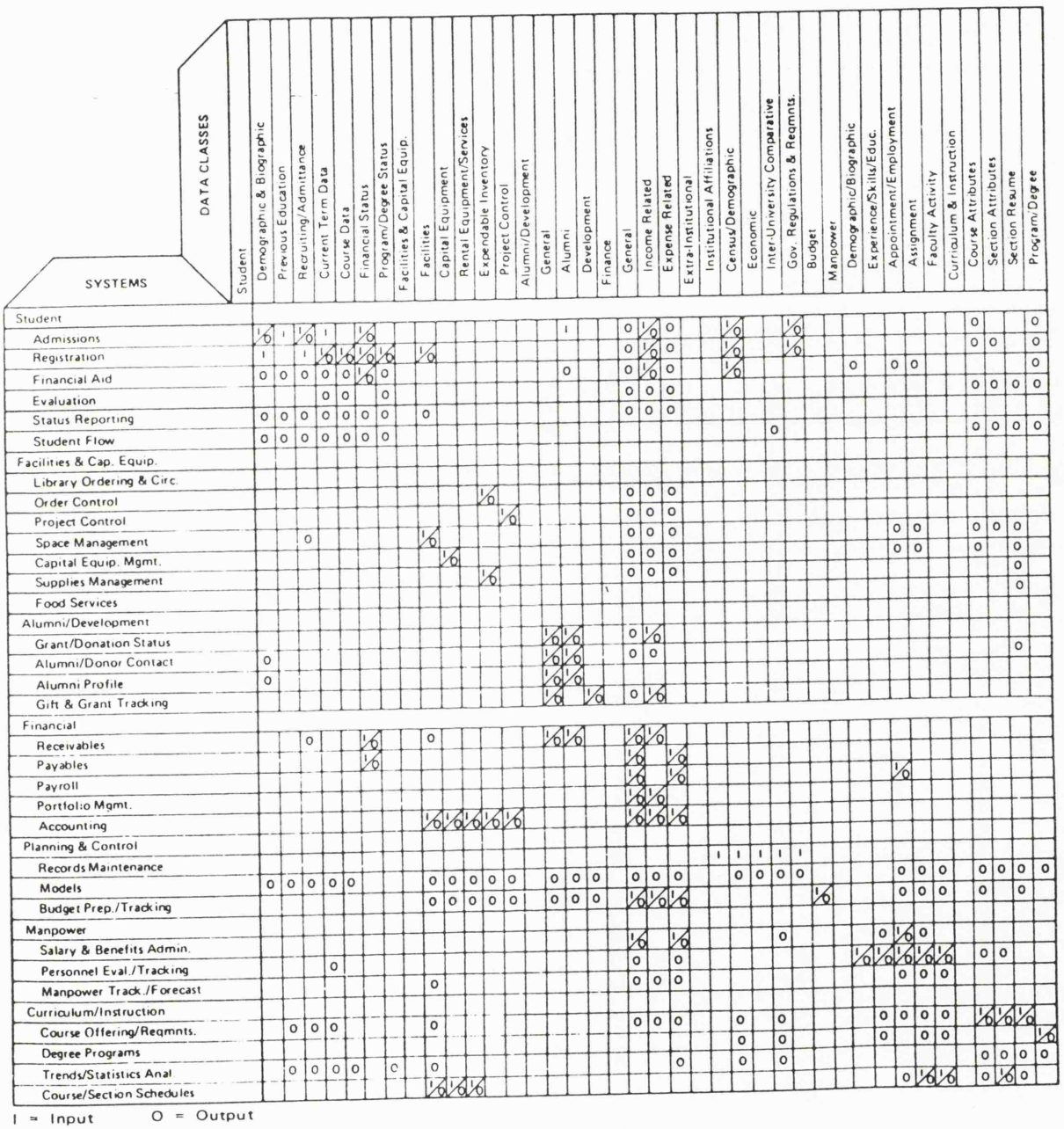
7. From this point on in the model, the universities in this study were well suited to performing the more internally oriented planning, but the aforementioned steps seem critical if in fact the universities truly wish to adopt strategic versus longer term planning.

8. As with the comparative data base developed by Bath's Planning Officer, and given the decision areas outlined in recommendation #4 (above), it would be possible to develop a data base similar in intent/content to that suggested in Figure 2. This information plan representation simply targets the areas where information input and output would be required and generated relative to the common planning systems groups and data classes discussed by the administrators during their interviews. Again, the purpose here is to both formalize and internalize the information networks with which the strategic planning process is fundamentally linked.

9. It is also recommended that as a starting point for initiating the administrative team, as a whole, into the strategic planning and management regime, especially in view of the non-management-related backgrounds of many of the administrators, that a discussion document be developed and circulated as a preamble to both initiating the aforementioned ideas and to developing an implementation schedule. This would serve to explain and help crystalize the rationale and concepts and help insure that the total team had a similar perspective as to the intent, nature, and purpose of strategic planning as a whole. Appendices 1 and 2, at the end of this thesis, are two examples of suitable preambles developed by Dalhousie University in 1983, under the supervision of the Planning Officer--and with input from this writer. They are included with the permission of the President, Dr. MacKay only as illustrative examples of an approach to sensitize an administrative team to both strategic planning and thinking. As can be seen from the appendices, they integrate effectively both the internal and external decision parameters mentioned at the beginning of this chapter.

FIGURE 2

A SAMPLE INFORMATION SYSTEMS PLAN



I = Input O = Output

In Appendix 1, it can be seen how Dalhousie University has utilized a planning framework to help develop its first formal strategic plan. It includes a mission statement, a review of external influences, and it details those internal areas felt to be most critical - organization, physical plant, systems, academic planning systems, and financial resources. Appendix 2 further expands on this information and augments the descriptive narrative found in Appendix 1 - as would be expected with any new learning situation (learning curve effect) since the administrative team now better understands the strategic process and would be expected to provide more input.

10. In relation to the background, interests and training of the senior administrators in the universities studied, it is recommended that when considering the appointments of new candidates for these positions, that the following criteria also be included in the appointments' selection process:

    a) relative to the GIN overlaps and underlaps of the other administrators, the candidates' connections with government should match the teams' needs regarding personal contact sources;

    b) relative to the ISIM networks of the team, the potential incumbent should be well-connected in the sectors and locations required to better balance the teams' information network;

    c) relative to the professional and academic backgrounds of the team, the candidate should ideally have exposure to management-related training;

    d) relative to the professional and academic backgrounds of the team and the importance they place on developing a strategy plan for their university, specialized ongoing seminars or training sessions should be taken by all the administrators in the areas related to strategic planning, and

11. Lastly, since all the universities surveyed have schools or faculties of management, it is recommended that specialists from the strategic planning and/or not-for-profit areas be utilized extensively in the planning process since they should be 'resident' experts.

Suggestions for Future Research

As has been mentioned before, the field of cross-national comparative research focusing on university management issues in Britain and Canada is ripe for further empirical investigation. And while this study has explored in depth some fundamental issues related to primarily the environmental analysis parts of the strategic management process in four universities, there certainly are other exciting, challenging and interesting areas that also need to be explored. The following is a list of those areas this writer feels warrants investigation.

1. Perform a longitudinal study on two comparable universities in Canada and Britain (or within countries) to trace how the external information filters through, affects, and is used in the planning process.

2. Perform a broad mail questionnaire oriented study of all universities either within or across the two countries to determine the extent of convergence versus divergence relative to the EFQ instrument.

3. Perform a similar study to that mentioned above, only targeting the key administrators in the intermediary councils/committees to test for convergence or divergence with the university teams.

4. Perform a reassessment of these four universities after they each have implemented their planned strategic planning process and test for convergence.

5. Based on the strategic elements in the model mentioned earlier, test the university populations between and across the two countries to see how many are in fact utilizing a strategic versus a long-term planning process.

6. In relation to the types of formalized information or data bases in use by the universities (such as the one at Bath), document and compare the applications in such planning related areas as:

   - budget forecasting;
   - budget analysis;
   - institutional cost studies;
   - support staff salary analysis;
   - support staff activity analysis;
   - student flow modeling;
   - enrollment forecasting;
   - budget preparation;
   - budget position control;
   - faculty salary analysis;
   - faculty activity analysis;
   - resource requirements model;
   - long range planning.

7. On a more macro perspective, develop projects across the two countries focusing on longitudinal studies of goal achievement and resource utilization resulting from the implementation of strategic decisions.

8. Test to see the relative accuracy of the universities' strategic projections by comparing actual results to stated objectives.

9. Determine the feasibility of developing centralized comparative data bases similar to Bath's.

10. Assess the 'state-of-the-art' in university management training to determine what courses, topics, and approaches are being used to help university administrators develop their strategic planning expertise in Britain and Canada--and survey participants to assess their opinion of the effectiveness of the instructional materials and approaches.

11. Compare the functions and uses of the Planning Officers in and across the two countries relative to their training and involvement in the strategic or long-term planning processes at their universities.

12. Given the aforementioned 11 suggestions, and depending on the 'state-of-affairs' in planning at the universities targeted between or within the two countries, develop a tentative list of research priorities as suggested in Figure 3 and construct a listing of priorities found within these universities relative to both their priorities in these areas and their information systems dynamics.

Implications

In closing, it must be noted that the research suggestions above are also applicable to the 'more favoured' nations mentioned in Chapter 3 (United States, Europe, Scandanavia).

Much has been accomplished, shared, and learned throughout this research undertaking, and it is anticipated (and hoped) that the administrative teams will be able to utilize this information as a first step in helping them to review and augment their strategic policies concerning their respective external issues and forces--and the information sources/systems for monitoring them.

FIGURE 3

SUGGESTED RESEARCH FRAMEWORK

Information Source	Planning Level/Purpose	Research Objectives
External Data (impacts primarily first two levels)	1) Strategic (substantive Policy)	Policy Research
	- recording of goals/objectives - developing program and resource strategies - designing overall structure and governance patterns - concern for long-term success and university-wide assessment - goal appropriateness	- long-range studies of organizational goal achievement and resource utilization - comparative research of other higher education institution - studies of overall structure and functioning of the institution - research on environmental conditions affecting the institution
Internal Data (impacts all three levels)	2) Tactical (procedural policy)	Operations Research
	- program planning and selection - resource selection - program selection - goal achievement and effectiveness	- devising forecasting and simulation models of institutional and environmental dynamics - evaluating alternative program and resource strategies and specific decisions
	3) Implementation and Control	Evaluations Research
	- control of activities and resources - improvement, regularity, and/or efficiency	- assessment of program input, process, and output; variables over time - measures of goal achievement and unintended effects of programs - cost and productivity measurement
		Descriptive Research
		- analysis and reports of current operations - developing formulas - comparing actual to allocated or projected data

As Thomas states -

> "The first step, the trigger to any policy review, is perception of a signal that decisions may be required, or at least particular events monitored, together with identification of the 'order' of issue involved, operational, administrative, or strategic. Whereas many management systems are closed loops where feedback stimulates reaction, strategic signals and issues may fail to do so. The signals may be weak, even confusing or unclear, and one of the elements in more systematic policy thinking is the handling of such 'weak signals'. The individual enterprise cannot hope to monitor them on its own; it may have to rely on others who monitor and observe events, and may therefore act as 'signal stations'.[5]"

Given the importance of the universities for our modern society, and for the future, it is up to us all, now, to effectively participate in their strategic evolution.

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Appendix 1

DALHOUSIE UNIVERSITY

STRATEGIC OVERVIEW

OF

ADMINISTRATIVE PRIORITIES

1984-87

TABLE OF CONTENTS

"IF YOU DON'T KNOW WHERE YOU ARE GOING, YOU'LL WIND UP SOMEWHERE ELSE"

CASEY STENGAL

INTRODUCTION

In 1979-80 the university's financial situation presented a growing realization of the serious nature and extent of impending operating deficits and unfunded capital debt. A new era of university management was about to unfold in which adjustments to government funding cutbacks became a chronic realty. it was apparent that a sharp change in thinking about university administration was needed in order to cope effectively with the mounting financial pressures. There was a paramount need to improve the financial "bottom line" of the university.

Since that time administrative emphasis has been placed upon

1) changes in the governance structure of the univeristy, including reorganization of the Senate, a more dynamic and active Board of Governors, and openness in management processes;

2) a perception of the need for major changes among senior administratative management ranks;

3) adjustments by and among senior executives including the president and vice-presidents;

4) improving financial performance.

Some of the major achievements of the last three years have been:

1) creation of an almost totally new administrative (non-academic) management team;

2) reorganization of senior executives;

3) In the area of finance:

   - a better sense of expenditure priorities
   - reduction in the base of operations
   - increasing self-sufficiency of some operations;

4) management information systems have begun to improve;

5) alumni programming and giving is now receiving significantly more attention;

6) capital campaign planning and organization has begun;

7) new life has been injected into public relations;

8) physical plant operations have been improved.

Despite these and other accomplishments, lots of challenges remain:

- A serious chronic deficit continues to exist; further opportunities to reduce expenditures must be sought; further income improvement is needed; increases in productivity through the better use of resources is vital.

- Employee morale and motivation is of great importance.

- Teambuilding must receive strong emphasis; the "horses" are there and must be motivated to work together.

MISSION STATEMENT

DALHOUSIE UNIVERSITY'S MISSION STATEMENT

(Discussion Draft Only)

The mission of Dalhousie is to sustain an institutional environment within which two principal objectives are assured.

First, to ensure that qualified students are offered a liberal education, and to encourage inquiry and discovery through support of scholarship, research and graduate study in the constituent disciplines.

Second, to provide programs of graduate and professional education and research in three areas:

a) Medical science, including basic and related health professions;

b) Public affairs, including law, public and business administration and international and regional development;

c) Applied research and development in areas characterized by established scholarship within Dalhousie and perceived regional needs.

DALHOUSIE UNIVERSITY ADMINISTRATIVE MISSION STATEMENT

To facilitate the delivery and development of the University mission, including the following:

a) acquisition and distribution of the human, physical and financial resources;

b) provision of support services for the operation of the University;

c) participation in the leadership and management of the University;

d) development of effective links and services to and for the community.

External Influences

- Political and Social Factors
- Technological Factors
- Economic Factors

POLITICAL AND SOCIAL FACTORS

SOCIAL

Demographic trends indicate a projected decline in traditional university age group (18-24) and an increased proportion of older people who have not traditionally used the University will do so - Dalhousie will be faced with both an opportunity and responsibility to these individuals

Changes in participation rates are currently affecting the demography of the student population, especially among women who now repesent increased participation and increased re-entry into universities and, subsequently, the labour force.

- Preoccupation with subsequent employment has become a primary concern of prospective and existing students.

- The need for vocational upgrading and re-training is apparent as individuals characteristically change careers several times in their working lives.

- There are now demands for recreational opportunities (both physical and intellectual) resulting from affluence, high educational levels and increased leisure time.
  This is likely to be a self-perpetuating trend.

POLITICAL

- Government restraint is occurring in the face of general increased demands being placed upon governments; decreased resources for universities is the consequence.
- A general swing to the "right" has occurred among governments.
- There is increased government concern for "hard" economic development and an expectation that universities should directly support applied research and vocational education.
- Earmarked funding has emerged as a new form of control and direction by governments.

IMPLICATIONS FOR DALHOUSIE

1) Social and political forces are running counter to the traditional role of Dalhousie (or the role as currently perceived)

2) Support for traditional programs will decline, creating need to maximize potential support and to change attitudes re: programming, relations with students, with alumni, development, opening the university to community.

3) Support for new programming will increase. If Dalhousie to participate, we need to change attitudes in the direction of the university as a service to the community, and attitudes about: resource allocation (flexibility), scheduling and the form of instruction to suit students rather than university personnel, shaping as well as following social forces (accountability, research, community participation).

TECHNOLOGICAL FACTORS

TECHNOLOGY- DEFINITION

Devices in support of human functions; such devices include:

- electronic facilities
  - telephones
  - computers
  - communication (data)
  - satellites
  - AV/TV Videotext
- physical support
  - lighting
  - air conditioning
  - work environment
  - noise control

Recent trends in technology have included:

1) Rapid development of hardware and software

2) Falling costs (equipment), rising personnel and software costs combine to make technology more complex and at the same time, more attractive.

3) More capability exists and less physical space is required by each new generation of technology.

4) More personalization of technology is resulting in more "user friendly" hardware and software.

5) More integration of technologies is beginning to occur as manufacturers are leaning more to "integrated" systems concepts.

6) Miniaturization of memory is continuing to occur.

7) Fewer hardware suppliers and more software suppliers are characterizing the technology landscape.

Some of the major concerns emanating from technological changes relate to:

1) Job redundancy of individuals without needed technological skills

2) Fad effect - is the new technology going to be around a long time?

3) Lack of qualified staff to define needs, design, implement and manage systems

4) Psychological impact - fear of introducing technology among workers

5) Rapid obsolence, lack of standardization of competing hardware and software creates a jeopardy

6) Need for flexibility to integrate new technology into the institutional setting

7) Defining needs: has not occurred in past because there is a need for qualified staff

8) Financial concerns are serious; what will be the financial consequences of major systems initiatives versus no action?

9) Adequate information for decision and policy making and communication (up, down and across the organization) is a problem, i.e. what are the specific needs, priorities, staff impact, costs and feasibility involved?

Projections for technology over the next three years are:

1) (See trends)

2) Technology is assuming a greater role in society (Also in university? This remains uncertain within a three year time frame).

3) Designation of what is to be included and the structure of computing will become clearer.

4) Greater office automation will occur.

5) Possibility of cooperation with other institutions and internally will be greater.

The impact on Dalhousie over the next three years of technological innovations will likely be:

1) Skill development of staff - everybody!

2) Shift in financial resources toward technology

3) Little impact on delivery of academic programs (uncertain).

4) On-going student computer literacy will be greater than that of staff and faculty.

5) Physical facilities (space, work environment, wiring) will receive greater consideration.

6) Greater productivity will occur through a combination of available technologies. Better service, little impact on overall numbers will be the consequence.

7) Cooperation among individuals at different institutions will be facilitated; e.g. research.

8) Continual reassessment of goals and priorities will be necessary.

9) Research will receive attention in terms of support, cooperation, interaction, and direction; it could very well be an instrument for development of technology.

ECONOMIC FACTORS

In recent years Dalhousie's economic environment has been characterized by:

Federal and Provincial Deficits
Cutbacks in Funding in education, health and culture
High interest rates
Inflation fluctuating up and down
High unemployment has contributed to student enrollment, reduced staff mibility and strains on student finance programs.
Student Enrollment
Reduced Staff Mobility
Strains on Student Finance Programs
High Energy Costs
Oil and Gas Resources Offshore have stimulated the local economy
Competition for resources in public sector institutions has grown.
Uncertainty about the future has become a watchword.
User Pay is effecting a shift in sources of revenue and has become a growing possibility for all public institutions including universities.

Today, Dalhousie is faced with:

Reduced government funding in real dollars or even current year funding.

This represents a serious threat in the form of reduced numbers of people and reduced scope of programs and activities.

At the same time Dalhousie is presented with opportunities in the following areas:

Increase private income;
Ocean Resources and Development;
Research Funding growth may be possible (can be both advantageous and a problem in fiscal terms);
Provincial economic growth in Nova Scotia is expected to out pace the rest of Canada;
Productivity and Efficiency can be improved via use of available technology;
The public image of Dalhousie can be enhanced.

THE ECONOMIC FUTURE IS LIKELY TO SEE

1) Reduced Real Resources;

2) Greater need for inter and intra university rationalization of programmes and services;

3) An increase in ocean related programming, reflecting the growth of that sector of the economy.

ECONOMIC IMPACT ON DALHOUSIE WILL BE IN THE FOLLOWING AREAS:

1) Reduced Real Resources, after allowing for inflation

2) Renewed concern for jobs among prospective students will cause shifts in program demand toward vocationally orientated programs

3) The need for inter/intra university programs & services will receive greater attention expecially in the area of shared services

4) Ocean Related Programming will grow

5) There will be increased dependence on private sector funding as public funding growth continues to shrink

6) A potential for a major shift in the mechanism of university revenue will be presented.

Internal Influences

- Organization, Structure and Ancillaries
- Physical Planning and Systems
- Academic Planning Systems
- Financial Resources

ORGANIZATION

The organizational elements that require consideration are:

1) Day to day administration

2) Planning and decision making

3) Governance structure

Recent Developments

1) Enhancement of administration, improved definition of functions and clearer statement of expectations have occurred,

- Staff numbers and competence have been addressed.

- Gaps still exist in a few areas.

- There is less duplication among units

- Better communication is beginning to occur within the university.

- Increased authority and responsibility has been placed upon key administrative staff.

- There is less insularity and more functional integration of units than previously existed.

2) More is now expected from the same or fewer resources (budget pressure),

- Confusion concerning organizational uncertainty did exist but is now lessening although job insecurity is still a generally widespread condition.

- Possible job adjustments due to technology also create insecurity among staff members.

- Competition for available resources amongst ourselves has become a feature of the restraint period.

- Morale ups and downs tend to occur with varying issues; the university still tends to be viewed as a large impersonal and complex employer.

Planning and Decision Making

- Decisions are made with relatively greater speed than in the past but not fast enough yet. The need for planning and decision-making systems is recognised especially in the area of information systems.

- There is a tendency towards specialization as administrative staff is strengthened.

- A lack of connection between Academic and Administrative elements is characteristic of the university, e.g. Computer Science.

- There is currently no recognised planning process to ensure priorities are properly identified or communicated to all concerned and reflected in budgets.

- A need for greater management skills is evident in academic as well as some administrative areas. Ineffective delegation in academic management is based on a lack of understanding of management principles.

- Poor communication of the rationale for decisions is often the case, leading to misapprehensions.

- Inadequate planning support exists specifically in terms of structure and systems.

Governance

- The Senate and Board role (policy vs operational decision making) needs to be clarified.

- The role of Deans' Council is not well defined.

- Staff awareness and understanding of the governance structure needs improvement.

- Administrative authority is not well enough defined vis-a-vis the governing bodies.

- Communication of decisions by governing bodies is inadequate.

- There is a serious question concerning the responsibility for academic planning: Is faculty or senate responsible and who is doing it now?

Projection

There will be an increasing trend to consultation between organizational elements,

- Greater dependence on administration will occur.
- Information overload has and will continue to occur.
- Willingness to change based upon a knowledge of changing social and economic trends is likely.
- A more balanced interface between Academic and Administrative elements will evolve. (More efficient administration may be a consequence).
- More cooperation with other universities is also likely to be necessary.
- A need for more administrative competence at the faculty level and recognition of it will begin to develop.
- The competition for scarce resources will continue.
- Will there be casualties, i.e., the elimination of functions or the consolidation through cooperation with other institutions?

Impact

The conflict over resources will be reflected in competition revolving around:

. Administration vs Administration
. Administration vs Academic
. Academic vs Academic
. Student Life Needs

- Skills conversion toward management and technology will occur.
- Office automation will become more widespread.
- Public impression of an efficient organization will begin to occur as a consequence.
- Improved communications within Dalhousie will be essential.
- Motivation of staff and upgrading of current skills will be a priority.
- More informed decision making will be possible.

PHYSICAL PLANNING

Physical Planning

In the past there was little planning; physical led academic planning; in the 1960's and early 1970's much building occurred to meet perceived needs at that time. Characteristically, buildings were:

a) Energy inefficient

b) Inflexible to meet changing needs

c) Equipped with minimum research capabilities

d) Houses were bought and their adaptation to academic needs was not efficient.

Research activity requires a good deal of equipment maintenance, associated plant costs and space demands. There is now a changing attitude toward plant rehabilitation. The acquisition of land in an urban environment was competitive and expensive and damaging to the University's public relations. Funds were not provided for much of the physical expansion leading to a serious debt load.

Physical Planning is confronting a number of significant issues:

1) The Environmental Consulting Services Plan is at the beginning of implementation;

   - it is reliant on A & R funding which has completely dried up;
   - the Plan is effectively in "limbo".

2) Energy conservation program

3) The University's physical plant is aging and requires:
   - expensive maintenance;
   - deferred maintenance due to the funding shortage;
   - the university is unable to respond to changing needs in its physical plant

4) Energy conservation will partially offset increased energy costs (which are volatile).

5) Negative public relations in the past are now behind us and the improvement may assist in fund raising.

The future is likely to see:

1) An updated Environmental Consulting Services plan, implemented as funding permits;

2) A plan to reduce deferred maintenance on a gradual basis;

3) Fund raising to support upgrading of the physical plant;

4) Energy conservation measures to be continued and supported financially;

5) An effective space management program that:
   a) reallocates physical resources where required,
   b) reduces physical plant where possible.

The impact of these developments will result in:

1) A need for increased funding in the areas of physical planning and the implementation of the Environmental Consulting Services Plan;

2) More research related physical planning work and changing academic program needs;

3) Enrolment and research may have to be restricted in areas where sufficient funds are not available for conversion or addition to space;

4) The reduced physical plant size may affect houses etc., i.e. result in savings.

SYSTEMS

Past systems (Computer and related) development was characterized by little coordinated planning. Needs were not defined and the planning that did occur was not coordinated across the university. Systems were developed as ad hoc responses to individual areas' perceptions of needs. No policy or direction on system planning was promoted and no communication of plans between units occurred. Inadequate facilities only added to the problem and were further aggravated by inadequate financial resources in sufficient personnel, a lack of needed software, lack of analysis and lack of planning.

Today's systems have not changed a great deal:

An uncoordinated environment continues to be a fundamental problem and consequently causes

a) difficulty in attracting staff;

b) inefficient and ineffective systems resulting in dissatisfied customers;

c) inflexible response to steadily growing and changing needs.

There is no comprehensively designed management information system on which to base system plans.

Administrative computing is decentralized and fragmented in no small measure due to a lack of funds.

Planning and development of systems currently ranges from the ad hoc to committee approaches.

Future systems planning remains an enigma; however it is assumed that the focus of such planning will be on Administrative Systems versus other types of requirements. The response to the perceived needs is unknown although it will center upon management information, office systems and computing. A project planning approach utilizing proven system methodologies will be required including:

- application systems development tools,

- standardization and documentation.

Facilities required will include a data base management system.

The impact of systems over the next three years will be in the areas of:

1) Policy development to ensure sound analysis, control of resources and priorization of needs;

2) Financial resources of a much larger magnitude will be required;

3) A plan with clear direction for systems and computing will be needed;

4) Financial effects of system development will depend to some extent on the policies governing such change and may be favorable or unfavorable, depending on policy;

5) One of the key issues to be dealt with will be how to best clarify the needs of users.

ACADEMIC PLANNING SYSTEMS

Recent trends in academic planning have included:

1) More coordination within the academic areas, with finance, and with other areas;

2) There has been broader involvement in the planning process;

3) It is now a more open process than previously;

4) A perceived need for more focus now exists concerning,
   a) long term implications of plans and
   b) anticipating needs.

5) There may be a possible reaction to technology as it impacts on individuals' jobs.

6) More internal "entrepreneurial" initiative is likely as opposed to Department or Faculty originated initiative as opportunities are perceived.

The current situation in academic planning is perceived as follows:

STRENGTHS

1) There is a clear perception of need in view of financial constraints.

2) Better planning structures at Senate and Faculty levels now exist.

3) Senate is concerned to establish academic priorities.

4) Improved administrative capacity to support planning is being developed.

5) A competent Faculty presently exists at Dalhousie.

WEAKNESSES

1) There is excessive concern with process as opposed to results.

2) There is some lack of clarity as to what planning can reasonably do in solving problems.

3) There may be less committment to planning at the Departmental level.

4) Possible confusion between role of Deans (envelopes) and role of committees (internal regulations).

5) Lack of timely and comparable information.

Future projections for academic planning include:

1) A more formal requirement for external accountability - more frequent, more careful assessment.

2) Greater pressure for internal accountability of programs - pressure to define criteria.

3) Increased academic/vocational tension in every Faculty.

4) Reaction against planning as results are obtained in a resource contrained environment - a tendency to revert to the political process.

5) Enhanced public understanding and funding from a clearer sense of priorities.

6) Resistance to the time cost of repeated planning as the process goes on and on.

The future impact of planning in academic areas will include:

1) Greater time and resource costs across the university.

2) Need for increased interaction of administrative and academic groups and for increased awareness of different perspectives.

3) Significant implications for committment of individuals to university and vice versa.

4) Increased "efficiency" rather than elimination of programmes - larger classes, tighter schedules, increased cooperation.

5) "Withering away" of low priority programmes over long period of time.

6) Greater interrelation of priorities among units - i.e. library and more explicit academic programme priorities.

7) Identify areas where additional expenditures are needed - both programmes and services (housing, counselling, library, computers).

8) More public participation in university decision-making (Advisory Committees, Board of Governors).

FINANCIAL RESOURCES

FINANCIAL RESOURCES

The cuts in funding for Medicine and for Alterations and Renovations and Non-Space capital expenditures in mid 1982-83, coupled with less than adequate increases in the funding level for 1983-84, have resulted in a reduction in real resources which affects all areas of the University.

The University was faced last year with the task of predicting future financial resources without knowing the extent of government funding until three months of the 1983-84 fiscal year had elapsed.

Dalhousie has made significant progress in its financial management in the past three years. The operating deficit was reduced from $4.8 million in 1981-82 to $1.1 million in 1982-83, and is budgeted at $1.0 million for 1983-84. Non-faculty budgets have been held to increases of less than 1% overall, permitting faculty expenditures to increase 8.9% in 1982-83 and 8.5% in 1983-84. Some of the non-faculty expenditure reductions have been fortuitous, resulting from lower interest rates and relatively mild winter weather. We have, however, reduced staffing in a number of administrative departments and have increased revenue in Dalplex, residences and other ancillary operations. More effective cash flow management has kept increases in our borrowings well below increases in the accumulated operating deficit while borrowing from endowment funds has stabilized interest rates and thus provided some protection against the effects of possible future increases in market rates.

Despite the difficulties that have attended these improvements, we have not achieved sufficient long-term reductions in the University's base of operations. While recognizing that some problems in the budget process will always lie outside our control, it is time to move to a longer-term projection of available resources and provide for increased flexibility in their allocation.

For example:

Increases in:	Operating Grant Rate Increase*	Weighted Average Salary Rate Increase**
1979-80	6.5%	10.2%
1980-81	8.5%	10.8%
1981-82	10.7%	12.4%
1982-83	9.9%	12.2%
1983-84	4.2%	7.9%

Notes: *Grant rate increases are on a fiscal-year basis.
**These are salary rate increases for union and non-union groups weighted in proportion to the total payroll for each group and shown for the academic year, or

appropriate compensation period, closest to the relevant fiscal year.

While great strides have been made in improving financial control at Dalhousie, with annual deficits being reduced from $4.8 million in 1981-82 to $1.1 million in 1982-83 and projected at $1.0 million in 1983-84, the budget process has been on an annual basis and has not given sufficient attention to the need for longer-term planning. Even the five-year forecasting done annually for MPHEC has been perceived as a separate process distinct from the regular budget. Most departments at Dalhousie, and particularly the academic areas, are unable to make long-term decisions in the absence of a projection of long-term resource availability. Any budget process which ignores this fact will only address the current, one-year situation and, under present conditions, tends to perpetuate the annual deficit crisis.

Three Year Financial Forecast

Schedule A attached shows the reductions in base required to achieve a balanced budget for the years 1984-85 to 1986-87. These projections show that the budget base must be reduced by $3.8 million in 1984-85 and by $2.4 million and $2.7 million in 1985-86 and 1986-87 respectively. To achieve these reductions, envelopes for 1984-85 must be held at 95% of the 1983-84 budget base in constant dollars. For 1985-86 and 1986-87 the base must be held to 97% of the previous year's base.

In developing these financial projections assumptions have been made on revenue and expense components as follows:

Revenues

a) The basic government grant is forecast to increase by 4% each year. Enrolment is assumed to be unchanged.

b) Non-Space funding has been projected at zero.

c) Funding for Dental Expansion has been included with an increase of $600,000 in each year.

d) No increase in Endowment Income is expected for 1984-85 but subsequent years are projected to improve by 4% over the previous year.

e) Student fees income assumes a 10% increase in 1984-85 and 4% in subsequent years. This projection assumes constant enrolment. Should enrolment increase, some of the additional fee income will be available to offset unnecessary cost increases in the faculties affected.

f) Revenues within the various budget envelopes have been assumed to increase by 4% each year.

Expenses

a) Expenses, other than Salaries and Fringe benefits, have been increased by 5% each year. This category includes Scholarships and Bursaries, Non-Space Equipment and all Other Costs in faculty and departmental budgets.

b) Interest Expense is expected to decrease slightly in 1984-85 because of the receipt of funds from the sale of the Hart/Butler property. The interest rate on bank loans has been assumed at a constant 12% for all three years. This expense is projected as a constant figure for 1985-86 and 1986-87 on the assumption that a balanced budget will be achieved.

c) The projection of Energy costs assumes no increase in consumption of Bunker "C" oil but a 5% price increase each year. Electricity prices are projected to increase by 5% in each year offset by savings as a result of energy conservation measures. A summary showing the various components included in Energy costs is included as Schedule B.

d) Salaries and Fringe Benefits have been projected assuming a 6% increase, each year, when existing contracts are renegotiated.

Preparation of Budgets for 1984-85

Budget envelopes for each faculty have been prepared and distributed to Deans. These envelopes were developed using 95% of the 1983-84 budgets with the three major components, Revenues, Salaries and Other Expenses.

1984-85 budgets should be developed on the following basis:

a) The assumed increase in revenues, within the faculty budget, is 4%. Any increase, in these revenues, in excess of 4% will be retained by the faculty, but increases in fees or charges for services require approval of the Vice-President (Finance and Development) before they are authorized for implementation or for planning purposes.

b) The increase in salaries, assumed at 5%, will not be known until some time during 1984-85. If the increases vary, from the 6% assumption, faculty envelopes will be adjusted accordingly.

c) Other expenses are projected to increase by 5%. The resultant dollar figure for Other Expense must be treated as a fixed budget amount and will not be adjusted for actual experience. This does not mean that these dollars cannot be reallocated within envelopes, but that no more than this amount is available.

SCHEDULE A

DALHOUSIE UNIVERSITY

THREE YEAR FINANCIAL FORECAST

	1983-84 Base	1984-85	1985-86	1986-87
REVENUE				
Government Grant - Basic	62,969,740	65,488,500	68,108,100	70,832,400
- Non-Space	-	-	-	-
- Dentistry	2,700,000	3,300,000	3,900,000	4,500,000
Endowment	5,221,602	5,222,500	5,431,400	5,648,600
Student Fees	10,852,988	11,938,300	12,415,800	12,912,400
Total Fixed Revenue	81,744,330	85,949,300	89,855,300	93,893,400
UNALLOCATED COSTS				
Scholarships and Bursaries	2,387,000	2,506,400	2,631,800	2,763,400
Non-Space Equipment	711,000	746,600	784,000	823,200
Interest	4,091,226	3,980,000	3,980,000	3,980,000
Energy	5,675,056	5,746,900	6,027,300	6,328,500
Pension Adjustment	-	100,000	100,000	100,000
Development Fund	-	100,000	300,000	500,000
Redistribution Fund	-	-	100,000	200,000
Available for Cost Centres	68,880,048	72,769,400	79,198,300	
COST CENTRE ENVELOPES				
Cost Centre Revenue	(22,738,200)	(23,750,500)	(24,712,000)	(25,694,100)
Salaries and Fringe Benefits	73,476,844	79,414,500	84,937,700	90,747,700
Operating Expenses	19,877,404	20,871,300	21,914,900	23,010,700
Total Envelopes	70,616,048	76,535,300	82,140,600	88,064,300
Required Reductions in Budget Base	1,736,000	3,765,900	6,208,400	8,866,000
Percentage of Previous Years Constant Dollar Base		95.08%	97.23%	~~97.29%~~

SCHEDULE B

DALHOUSIE UNIVERSITY

THREE YEAR ENERGY PROJECTIONS

	1984-85	1985-86	1986-87
Bunker "C"	2,302,600	2,411,640	2,532,280
Electricity	2,249,787	2,360,827	2,476,651
Fuel - Furnace Oil	567,000	612,360	661,349
Water	341,642	341,642	341,642
Propane	22,421	24,215	26,152
Taxes	263,400	276,570	290,398
	5,746,850	6,027,254	6,328,472

LOOKING AHEAD AT DALHOUSIE:

AN APPROACH TO UNIVERSITY PLANNING

THE PLANNING PROCESS

THE EXTERNAL ENVIRONMENT

- general perceptions of society
- enrolment trends and student interests
- attitudes of governments
- the university sector

DALHOUSIE UNIVERSITY

- sense of mission and identity
- capabilities and strengths
- Dalhousie in the environment ahead

THE STRATEGIC ISSUES

- the process of development
- strategic subjects and issues
- addressing the strategic issues

ANNEXES

I - the role and goals of Dalhousie University in the 1980's
II - commentary on the strategic subjects and issues

LOOKING AHEAD AT DALHOUSIE: AN APPROACH TO UNIVERSITY PLANNING

THE PLANNING PROCESS

* It is becoming apparent that Dalhousie is facing a challenging array of strategic decisions - that is, decisions which will bear directly and significantly on the character and direction of the University in the years ahead.

* To a degree, this situation is accentuated by the increasingly serious financial squeeze being experienced by Dalhousie. However, the immediate financial concerns are largely symptomatic of the coming together of a number of trends in the university sector generally.

* To come to terms with strategic issues, and indeed, even to define them satisfactorily, it is necessary to develop a perspective on the key external and institutional factors and forces at work, and on the interplay between them. At the same time, framework-setting is only the preamble to dealing with issues, and it fails if it becomes an end in itself.

* The purpose of this paper, then, is to sketch out a broad planning framework which provides a reasonable set of planning assumptions and parameters, and yet is straightforward enough not to collapse of its own contentiousness or complexity. The elements of the framework are set out on the title page.

* The point-form presentation used in this introduction is employed throughout. It is hoped that this format will underline the nature of the exercise - to set out and relate a series of planning guidelines - and will enable reviewers to take issue with particular elements and their implications without having to unravel a tightly-bound narrative.

* Because the framework set out here provides only a context rather than conclusions regarding specific issues, it may be regarded as too general to be helpful in dealing with the pressing questions now facing the University. However, it should be seen as the first step in a broader planning process which will move from the planning framework to a discussion and refinement of the key issues which it suggests and then to specific but coordinated efforts to formulate responses to these issues.

* There is one central reason why an attempt has not been made in this document to move farther along in that planning process. This reason is the conviction that effective planning must take place primarily in the departments, schools, faculties and Senate of the University, where particular strengths, needs and opportunities are best known. Looking at Dalhousie "top-down", as is done in this paper, can help to clarify broad directions and priority concerns, providing a context for review, evaluation and planning within academic and other units. But it cannot substitute for these "bottom-up" exercises.

* In short, this document will be useful to the extent that it provides both an opportunity for wider input concerning fundamental aspirations and concerns of the University as a whole, and a reference point for the developmental thinking of any and all groups within Dalhousie.

THE EXTERNAL ENVIRONMENT

General perceptions of society

* Broadly speaking, there has been increasing ambivalence towards the university sector during the 1970's. Some disillusionment about traditional liberal education (especially in the context of employment) is balanced by a sense that prospects for society are highly dependent upon the supply and quality of scientific, technical and professional manpower. Certainly views about university education have become more discriminating and there is more questioning of the contribution of universities to society; this extends to some extent to scientific and professional disciplines as well as the arts and humanities.

* This more critical mood does not extend to a challenge of the basic foundations of western higher learning and scholarship, but it may undercut willingness to continue to support the scale of education experienced during the past two decades, particularly in arts, humanities and social sciences. That said, at the local level, AAU survey results suggest the maintenance of quite strong support in the region for universities, including the liberal arts.

* However, there appear to be some widely-held and mutually-reinforcing stereotypes of university communities: that their primary role is to produce trained persons to meet specific manpower needs; that they are unable to, despite spiralling costs; that they are characterized by low academic productivity and that tenure and sabbattical leaves tend to contribute to this. At the same time conflicting views see the universities as service centres to cater to the interests of young people, and of the community at large, in obtaining degree qualifications, for almost any specific area, and as centres with special obligations to serve the community at large through services and facilities for a variety of purposes other than academic.

Enrolment trends and student interests

* The historical pattern in Canada saw rapid expansion in the late 50's and 60's, followed by moderate growth to the mid 70's and a levelling since (actually a decline to 1978 and subsequent recovery).

* Applications and enrolments are buoyant in current year, reflecting both the continuing growth in the principal source population (18-24 yr. olds) and the maintenance of enrolment rates. However, the 18-24 age group peaks in 1982-83 and the previously expanding female enrolment rate has levelled in recent years.

* The demographic patterns, along with expanded alternatives at the post-secondary level in many jurisdictions, will likely result in a levelling if not contraction in the number of students coming directly from the compulsory school system to universities in Canada.

* It is also possible that the current buoyancy of enrolments is in part a reflection of young peoples' difficulties in getting jobs. A strengthening of the regional economy might accentuate the demographic patterns of the next few years.

* Studies of the labour market picture in the 1980's suggest a pattern of employment prospects which will reinforce the marked shift in student interest already being experienced towards professional and career-oriented programmes, many of which have enrolment limitations.

* Various forces, including higher incomes, greater female participation and more rapid job redundancy, will lead to demands for more flexible and accessible academic programming on a part-time and continuing basis. Meeting these demands will require, inter alia, effective utilization of technological developments in the communications and education fields.

* Overall, these enrolment trends and student interests suggest a dampening of aggregate demand, coupled with pronounced shifts in subject area interests and a need for imaginative programmes and innovative approaches to programming.

Attitudes of governments

* After almost two decades of steady growth in the real financial resources directed to the university sector by both federal and provincial governments, since the mid 1970's provincial governments have taken advantage of fixed increases in federal commitments to slow down the growth in their own allocations to the sector. The federal government has indicated that, at the conclusion of the extended federal-provincial agreement in the spring of 1983, it may well respond in kind.

* The resolve of both levels of government to trim spending on post-secondary education appears to stem from their broader regimes of fiscal restraint, their perception of a softness in public support for the universities (at least relative to other candidates such as Medicare or social assistance), and perhaps an awareness that much more drastic, even draconian, steps are being applied in the U.K. and other countries, and considered in the U.S.

* Governments are also gaining a sharper sense of what kinds of objectives might be met through more specific targetting of assistance to the sector. For the federal government this would likely involve certain kinds of research and university-level skills requirements. In addition, federal concerns for "visibility" may translate into a shift in support away from institutions through provincial governments, and towards student-based mechanisms of assistance.

* For the provinces, it might involve a bigger say in system design. In the latter category in Nova Scotia, there may be particular concern to maintain the long-standing pattern of geographic decentralization and the solid support for the liberal arts and sciences undergraduate programmes which constitute the core of most of the institutions in the province.

* Overall, the prospects are for less than inflation-offsetting support along with increased intervention on the part of governments regarding the university sector in Canada.

The University sector

* During the 1960's, rapid increases in enrolment and funding led to the expansion of existing institutions and the establishment of new ones, in both the university and college sectors. The Altantic region relied much more heavily on the expansion of existing universities than did other parts of the country.

* By the mid-1970's, institutions in all regions were beginning to experience shortfalls in operating revenues relative to costs, and many were also carrying some capital debt from the period of expansion. Hence, in the late 1970's, annual operating deficits had become, if not the rule, at least common in the university sector.

* To date, reactions to this shift in fortunes have been decremental rather than structural, involving limited cutbacks in faculty and/or staff, based on attrition. Only in a very few areas which have experienced precipitous declines in enrolment demand in some institutions, have there been specifically-targetted cutbacks of any magnitude. Some universities have found considerable compensating growth through substantial increases in part-time enrolment.

* Looking ahead, the provinces west of Ontario, which tend to have relatively concentrated university systems, are the ones most likely to pursue adjustments within the existing institutional base. In Ontario, Quebec and the Maritimes, where the university sectors are considerably more disaggregated, options for future development of the systems are more likely to include consideration of institutional rationalization or consolidation. In this regard, a recent report commissioned in Ontario has proposed that, failing a commitment to maintain the real value of assistance to the sector, the entire provincial system should be drastically re-organized with fewer institutions and more specialized roles.

DALHOUSIE UNIVERSITY

Sense of mission and identity

* Dalhousie is a mature institution with an apparently widely-held sense of its overall mission, which is firmly rooted in traditions. It aspires to a fully-rounded university role, with balanced excellence in teaching, scholarship, research and service.

* This purpose has been expressed to the MPHEC in a statement of role and goals, which is reproduced here as Annex I. In this statement, it is indicated that Dalhousie's identity is reflected, in particular, in:

  - a high quality liberal education in the arts, humanities and sciences;
  - rigorous educational programmes in the traditional learned professions; with extension into newer professional fields;
  - a unique and important place in the health care systems of the region; and
  - an important research role, especially in the health and natural sciences and in the social sciences.

* In some respects, Dalhousie is an institution of local and regional character, but in others it is one of national and international stature. As such, Dalhousie is not precluded from striving for first class in many fields, although it lacks the resources to maintain excellence across the whole range of possible university activities. The central requirement of preserving and promoting Dalhousie's high standards of performance and achievement provides a principal reference point in making discriminating decisions about each of the academic and other activities already engaged in or contemplated.

Capabilities and strengths

* Dalhousie benefits from a broad institutional base, comprising the conventional academic coverage of larger Canadian universities, other than for an abridged engineering programme. Moreover, the expansion and new directions of the last two decades have been accommodated without serious attenuation or displacement of most traditional core areas.

* Dalhousie's strengths in teaching and research are also directly relevant to society's needs. The University's teaching programme covers a wide range of study, with the potential to accommodate emerging opportunities in part-time and adult education and in educational technology. In science and technology, Dalhousie can respond to challenges in graduate education and basic research and is equipped to explore increased applied activity. In the social sciences, the University has a strong tradition in enquiry and education to address the problems which society and government face in dealing with modern life. Equally, the humanities and arts preserve the human and cultural values which are more important than ever in a world of increasingly compelling technology.

* It is inevitable and appropriate that the prospect of protracted financial austerity will bring about a reassessment of the nature and extent of Dalhousie's various programmes and activities. However, even with financial restraint, the size and scope of the University's academic base offer potential for continued dynamism, notably in providing flexibility for:

  - internal shifts to protect core areas and/or to respond to growing interests; and
  - taking advantage, as appropriate, of specific-purpose financial support, such as increased NSERC funding.

* Overall, the combination of sense of identity, institutional momentum and record of performance gives Dalhousie the potential to fare well in the 1980's, perhaps better than some other universities in the region.

* As a footnote to this positive assessment, it should be observed that Dalhousie's relative strengths in the region's university sector, together with its other attributes such as its pre-eminent professional schools and substantial endowment, may be interpreted in some quarters as meaning that the University "can take care of itself". There is some traditional resentment of it as the "fat cat" of the university system, and this image could have political significance. It is, therefore, important in stressing Dalhousie's capabilities, not to seem to boast; and it is important also to communicate the relevance and importance of Dalhousie's needs.

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Dalhousie in the environment ahead

* As part of this framework, it has been suggested that, at the level of the university sector in Canada, some contraction and reorientation seems likely, driven by mutually re-enforcing trends in government support and enrolment demand. For Dalhousie, leaning against these pressures will be the University's recognized prominence and regional comparative advantages, notably in scientific and professional education and in research.

* These attributes should enable Dalhousie to attract a disproportionate share of both students and directed government assistance other than possible provincial support for regional balance in the sector. Hence, it is unlikely that, for the next five to ten years, Dalhousie will be faced with the kind of institutional choices (either opportunities for large-scale expansion or requirements for wholesale amputations) that would challenge the basic purposes or nature of the University. This is not to say that there are not strategic issues - only that these issues can be addressed largely within the bounds of Dalhousie's sense of identity and traditions.

* Any possible adverse effects of political pressure for regional balance, tending to favour the smaller institutions can best be headed off if Dalhousie takes a constructive and objective attitude, and where appropriate initiative, in supporting co-operation and co-ordination among Nova Scotia universities in cases where this might clearly improve cost-effectiveness either in the education of students or in enhanced contributions to the extension of knowledge.

* The over-riding strategic challenges which emerge from relating these general elements of the framework are for the University to enhance its capacity to evolve and adapt within a relatively fixed level of real financial resources, and to establish control over that evolutionary process to ensure that the resources are available to further excellence in teaching and research, which are the primary roles of Dalhousie.

THE STRATEGIC ISSUES

The process of development

* It appears reasonable to assert that, despite ambivalent signs about the attitudes of society, students and governments toward the university sector, Dalhousie has the potential not only to survive but to develop in vigorous and exciting ways.

* However, it is clear that, at present, this prospect can be realized only by a concerted process of internal evolution and regeneration. Specifically, such a process must be directed to:

    1. maximize the financial resources available to the University;
    2. protect and strengthen academic research fields of central importance and excellence;
    3. determine those areas for which it is appropriate to pursue new opportunities;
    4. reassess the nature and scale of non-academic activities and peripheral academic ones which might be curtailed or eliminated to accommodate new initiatives;
    5. represent Dalhousie effectively and constructively in dealing with governments and in co-operating with other institutions and the private sector.

* These broad critieria provide general guidance, but in order to make progress towards achieving them it is necessary to identify strategic issues as well as an approach to dealing with these issues reasonably systematically. To recall, strategic issues can be described as ones concerning which decisions will bear directly and significantly on the character and direction of the University in the years ahead. They must also be issues which present valid alternative courses of action and which fall essentially within the decision-making ambit of the University. (Of course, in some cases strategic decisions may be required to pre-empt or to influence intentions of outside authorities.)

* It would not be difficult to assemble many lists of specific issues of pressing concern to all or parts of the University. However, any unstructured list of specifics would be open to legitimate challenge from many quarters as not reflecting overall priorities. Moreover, even if a widely-accepted list could be constructed, it would be virtually impossible to establish appropriate terms of reference to address each, given the overlapping nature of pursuits within the Dalhousie community.

* At the other extreme, there is a risk of being too elaborate in setting our these interrelationships, leading to a distraction with methodology rather than progress in dealing with the real concerns and issues. As a middle road, the approach taken here is to organize matters in relation to the principal dimensions of the nature and character of Dalhousie: its layers of purposes, goals and objectives; the resources available to it; and its evolving activities.

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Strategic subjects and issues

* It is suggested, then, that it is useful to cast major issues in the context of objectives, resources and activities. A commentary on the kinds of specific issues which emerge within these dimensions, from the perspective of the University administration, is provided in Annex II to this framework paper. It should not be interpreted as comprising firm administration "positions" on particular issues. Rather, it is intended to be an illustration of how an agenda of strategic issues can be constructed. Along with the paper itself, it is intended to help stimulate discussion throughout the University, and to contribute to the development of a more explicitly strategic orientation for Dalhousie in the period ahead.

* In the attached formulation, the agenda looks something like this:

OBJECTIVES
- an elaboration of the statement of role and goals, with particular attention to clarifying:
  - University objectives and priorities; and
  - the place of Dalhousie in the structure of universities in the province and in the region.

RESOURCES

Human Resources
- enhancement of faculty and staff productivity and flexibility
- academic staff complement planning
- the evolving relationship of students and the University

Financial Resources
- the maximization of current income
- development of a longer-term financial plan
- identification of capital and operating fund-raising requirements

Physical Resources
- the integration of space requirements and priorities
- optimum arrangements for space allocation and scheduling

ACTIVITIES

Academic Programmes
- the development of academic programme priorities and plans
- responses to the changing composition and interests of the student population, including the evolution of continuing education needs
- optimum utilization of changing technology and delivery systems
- identification of productive areas for co-operation and/or coordination with other institutions
- consideration of the appropriate responses to government priorities.

Research and Scholarly Work
- incorporating research strengths and potential in academic planning
- the orientation of research to public needs
- a policy framework for institutes and centres

Ancillary Operations
- determination of the appropriate nature, extent and organization of service and ancillary operations.

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Addressing the strategic issues

* The strategic subjects and illustrations of strategic issues set out in the preceding section cover a very wide field - and intentionally so. Many of these are familiar, and a number of key issues are currently being analysed in various places. Indeed, initiatives have been taken to pull together some of the broad subjects - notably academic programmes by the Senate Planning Committees and financial resources by the Board of Governors and senior management. In addition, active consideration is being given to an overview of other subjects, such as research by the Vice-President (Academic and Research).

  It would be surprising if it were otherwise, for the University never operates in a policy vacuum. There may be no shortage of planning or policy deliberations, only a need to bring together these efforts more coherently, within an appreciation of overall purpose and direction. Perhaps the critical challenge in this regard is to ensure that the "top-down" thinking on university-wide matters and the "bottom-up" work on plans and priorities within departments, schools and faculties mesh together reasonably well.

* To bring about greater coherence and direction, it is necessary to consider whether the spectrum of strategic subjects and issues is being covered adequately, and how it fits together. This step involves a general discussion of the overview set out in this planning framework, followed by the review or development (as necessary) of the procedures needed to address the major subjects and issues in a systematic and coordinated manner. In some cases the machinery is now in place. For others, it may be appropriate to look beyond conventional arrangements to such means as symposia or commissions in order to provide a catalyst.

* If this approach is followed, there will be no single "planning process" into which all issues feed directly, much less a "stragetic plan" down the road which would set a fixed course for Dalhousie. The option exists of pursuing a more formal strategic planning mandate, together with a specially-designed structure of committees, procedures, reports and so on. A number of Canadian universities have followed this course, and in some cases have produced weighty volumes. Almost invariably, these tasks have taken several years. More significantly, it has generally proved to be difficult if not impossible to incorporate the findings of such reports into the on-going decision-making of the universities concerned.

* The principal risk associated with the more informal approach suggested here is that the strategic planning framework - the planning assumptions, parameters and issues - can be mistaken for strategic planning itself, leaving the actual operations of the University to continue largely unaffected. Hence, it is useful to consider establishing some means of providing broad guidance to the exercise - a means of ensuring that the existing structures of deliberation and decision-making do indeed address the strategic issues and take on a more strategic orientation generally. Perhaps the most straightforward way to provide this oversight would be to have the President establish a Consultative Committee on University Planning, with broad representation from across the campus. The Committee could meet regularly with the President to take stock of the strategic planning process and to provide guidance and direction as required.

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* Within the setting provided by the strategic agenda and a Consultative Committee, the lead roles within the Dalhousie Community will vary from subject to subject and issue to issue, reflecting the special structure of goverance and participation found in a university such as this. Taken together, they require the concerted attention of the whole University, with departments, schools and faculties working actively with Deans and the President to develop policies for consideration of Senate and the Board of Governors as our governing bodies. The process will succeed to the extent that all those involved are committed to promote the welfare of the institution as a whole in service to students and to the wider community for a long term future of Dalhousie.

COMMENTARY ON THE STRATEGIC SUBJECTS AND ISSUES

The purpose of this annex is to set out briefly some of the major issues which present themselves under the subjects suggested in the strategic planning framework for Dalhousie. It is illustrative rather than comprehensive in coverage, but hopefully it is indicative of where gaps in attention, as well as inordinate attention, may lie. The specific characterization of the issues reflects, of course, the perspective of the University administration, requiring the benefit of much more input from the various parts of the Dalhousie community.

OBJECTIVES

University-Wide Priorities

It is suggested in the framework that there is a widely-held sense of Dalhousie's basic role and goals. However, it is noted as well that inevitable resource limitations require choices to be made about what fields and activities can and should be maintained at, or developed to, the high standards of the University. To do this, it is necessary to attempt to elaborate upon the existing role and goals statement in order to provide indications of objectives and priorities.

It is tempting to seek to identify a single powerful reference in this regard, such as in the phrase "protecting academic priorities". Such guideposts can be helpful, but on close scrutiny they are likely to require further clarification as well. It may be that the kind of objectives which are needed will only be brought into focus in the process of wrestling with particular strategic issues. For the moment, it is important at least to recognize that, in addition to addressing how Dalhousie might best do things, attention must be directed to what things Dalhousie should do.

Dalhousie in the University System

Along with internal priorities, the elaboration of Dalhousie's objectives must include consideration of the special contribution of the University to post-secondary education in Nova Scotia and in Eastern Canada. In this context, the focus is not on the general concerns raised by some of the signals and initiatives which are coming from governments currently, concerns which have lead to vigorous explanations and defenses of autonomy and adequate funding for the university sector. The intent here would be to

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look beyond the general case for the academy to the particular role of Dalhousie in this region. Simply put, if Dalhousie is treated the same as every other institution, it will become the same. The case to be made is not one for favoritism, but for acknowledgement of special responsibilities which Dalhousie should accept and discharge.

RESOURCES

Human Resources

It is no less true for sounding somewhat trite, that Dalhousie's strength lies ultimately with the quality of its faculty and staff, and in the enhancement of their performance and opportunities. Seen through an organizational eye, this enhancement may be expressed in terms of productivity and flexibility, but the general intent -- to enable the most effective academic and other contribution by all staff -- is fundamental. In the 1980's, the principal means of addressing these kinds of issues will likely be based in collective agreements, and in the coming years the renegotiation of these can be expected to focus to a considerable degree on balancing the interests of vitality and security concerning Dalhousie personnel.

In addition to such provisions, it will be necessary to engage in much more explicit academic staff complement planning. As with the decentralized budgeting process now being implemented, it makes sense for the detailed planning to take place largely within faculties and other academic units, in the context of the academic and financial guidelines which may be provided by the Senate and the Board.

It is also important under this subject heading to consider issues concerning the overall relationship with Dalhousie's students. There is a tendency to compartmentalize this relationship. Tuition policies are of concern on the financial side; accommodation falls under physical planning; even the changing composition and interests of the student population can be viewed as matters involving the academic programme exclusively. However, in pursuing each of these elements, there will need to be a broader sense of how the University and its students should interact. Moreover, this sense will have to extend beyond the campus to an awareness in the school system and the community about what kind of place Dalhousie is and intends to be.

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Financial Resources

The current and projected financial picture indicates a need to maximize the income available to the University. All avenues available to generate additional income from endowments without jeopardizing the longer-run base of assets should be considered. A persuasive case for reasonable levels of operating assistance together with more compensatory funding of high-cost programmes must be made to governments. And adequate financing must be found for pressing capital requirements.

These steps are needed, and all related ideas should be pursued as well. However, these needs are now well recognized throughout the University - in that sense at least there is little issue here, other than to determine how much can be accomplished. The larger issue would seem to be to develop a longer-term financial plan for Dalhousie, in order not only to establish a financial course which balances operating revenues and expenses, but also to make provision for financial requirements beyond the regular operating base. Perhaps one of the principal objectives of such a plan should be to free up an amount of endowment income for such special purposes, as is the norm in many academic institutions.

One component of a financial plan would concern fund-raising. This is not as discrete a subject area as might be assumed, because benefactors have come to expect not only the capable management of their gifts but also a clear indication of the priorities for capital and operating funds to which their donations will be applied. In other words, it is not sufficient to decide to get on with raising more funds from private sources, with the intention of deciding the uses to which they will be put when they become available. Fund-raising can only proceed with the ability to present to potential donors a reasonably clear picture of major capital and operating requirements to be supported.

Physical Resources

Dalhousie has benefitted from major physical expansion during the past two decades. Indeed, despite the financial burden which some of these projects have come to impose, it may not be unreasonable to suggest that facilities such as the Life Sciences complex, the Killam Library and the Tupper medical building have been prerequisite to securing the status of Dalhousie as a major university. Nevertheless, much of the campus dates from an earlier era, and houses both long-standing and recent occupants with

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increasing strain. There is no early prospect for satisfying all of these space requirements, but the University is developing a more accurate and comprehensive picture of the needs. To this, it will be necessary to apply whatever indications of priority become available, in order to ensure that appropriate treatment is accorded and effective cases can be made to granting councils and governments.

On a more operational level, a campus with as diverse forms of accommodation and facilities as Dalhousie requires the most efficient and effective methods of space allocation and scheduling. To a great extent, the University will have to make do with the physical plant it now has, and it must be used to the optimum.

More specific issues concerning physical resources can be identified as well, which will require careful attention in concert with the examination of the academic and other activities being supported. Particular concerns in this regard include the library system, and learning resources generally.

ACTIVITIES

Academic Programmes

Perhaps the most difficult strategic issue with which the University will have to come to grips is the notion of "academic programme priorities". Colloquially, this idea is seen by many as the way in which their programme is recognized to be more important than their neighbour's, and therefore deserving of greater financial support. In fact, the experience of many other universities suggests that the actual process is not nearly so dramatic or decisive, though priority-setting in a university is meaningful only if it is translated into the allocation of more resources to some activities and programmes, and less to others.

If priority-setting is done well, this shifting of resources is only the tip of the iceberg. Most of the work takes place in departments, faculty councils and the like, involving reviews and evaluations of performance and prospects. Only the top and bottom tranches are brought forward for university-wide consideration of adoption, enhancement, alterations or deletion. Ideally, the academic governing bodies do not simply react to such proposals, but provide guidance about the on-going process as well.

This is a tall enough order, but it is complicated further by an ever-changing external environment The need to take into account the changing

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interests and composition of the student population was noted earlier. In the past, this was largely a matter of expansion to accommodate swelling ranks of "university-age" students. In the future, the equation will not be so simple. Currently, the field of continuing education provides the most striking example of the need to re-examine our approaches to the student population.

A related issue concerns the utilization of changing technology and delivery systems. There is an understandable tendency for individual institutions to stand back from the dazzling expositions of the emerging information age, with the expectation that the technology marketplace will handle the selection for them. However, there is every indication that the range of choices will widen not narrow, and that the systems can be made to fit the University's needs if these are known.

Technology offers, in turn, one avenue towards another likely development in this decade, that of increasing cooperation and coordination among academic institutions. While there are persuasive reasons for Dalhousie to move with deliberation in this regard, it is clear that it is in the University's interest to seek out productive areas for cooperation and even realignment, if only to avoid having ill-conceived restructuring imposed from outside.

Hopefully, governments will not act precipitously to rearrange the university sector, but at both the federal and provincial level there is concern to have a more direct impact on post-secondary education and training. One of the most important reasons for engaging more explicitly in the process of examining Dalhousie's strategic challenges and issues may prove to be the need to have the University's priorities in sight when governments signal their own more directly. At a minimum, it is reasonable to expect that governments will target their assistance more selectively, and Dalhousie must be able to determine those instances for which the prospect of enriched funding represents worthwhile opportunities to pursue.

Research and Scholarly Work

Dalhousie is perhaps unique in the Maritime region in having research programmes as diverse and extensive as its academic programmes. It is equally appropriate that much of the University's research policies are specific to these programmes and are determined within them. At the same time, it is reasonable to consider those aspects of research policy which should bear a Dalhousie stamp to ensure coherence and consistency.

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Of course, research and scholarly pursuits are integral to the academy, and cannot be considered in isolation. But integral must mean more than derivative - in other words, the nature and scale of research at Dalhousie should not be determined exclusively by judgements about the appropriate size of the corresponding academic teaching programmes. Dalhousie claims a special, indeed pre-eminent, place in the university structure of the province and the region, and does so to a considerable extent on the basis of its research and scholarly work. Hence, a strategic orientation requires that academic planning take into account research strengths and potential along side teaching programme considerations.

As with the academic programme, research activites can expect to have to relate more explicitly to the external environment. This looking outward will extend beyond the likelihood of more directed funding, to general demands by governments and the community that universities become, or are at least seen to be, more relevant to public needs than is the impression currently. A particular focus in this regard will probably concern industrial innovation, exploring ways in which Dalhousie might transfer expertise to the marketplace directly.

It would appear that one such element concerns the general orientation of institutes and centres. These organizations are a distinctive feature of research at Dalhousie, and the relative autonomy afforded their operations has provide fruitful. That said, there has not always been a clear understanding of the role and mandate of some institutes and centres as they have evolved, and the advent of more conditional government funding underlines the importance of clarifying the relationship between the University and its organized research establishments.

Ancillary Operations

Perhaps inevitably, the final subject on the agenda concerns the miscellaneous category of University facilities and activities which have come to be labelled ancillary operations. The subject is included here simply for completeness. It is, of course, quite unsatisfactory as a category, having become such largely for purposes of accounting convenience. It is unsatisfactory not only because to lacks homogeneity.
The greater problem is that it is easy to equate ancillary with peripheral, as indeed the word suggests. In fact, what are called ancillary operations include various undertakings which may contribute greatly to a liberal education and educational environment.

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It is essential that, in giving Dalhousie a more explicitly strategic orientation, the most appropriate nature, extent and organization of service and ancillary operations be determined. But it would be inadvisable to bring to that exercise any more preconceptions about their relevance or utility than to any of the other subjects and issues which face Dalhousie.